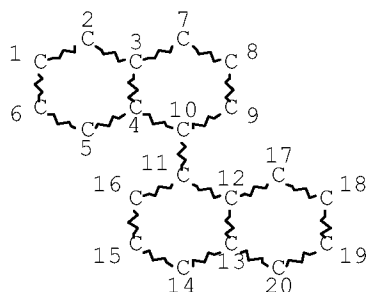


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L1 1 SEA FILE=HCAPLUS ABB=ON PLU=ON US20050175857/PN  
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 32316-92-0/BI OR 49610-35-7/BI OR 604-53-5/BI OR 676553-38-  
 1/BI OR 76-86-8/BI OR 7726-95-6/BI OR 861909-11-7/BI OR  
 861909-12-8/BI)  
 L3 STR

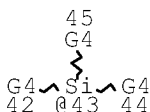
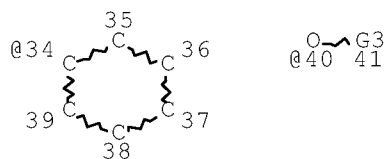
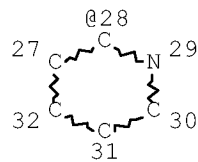
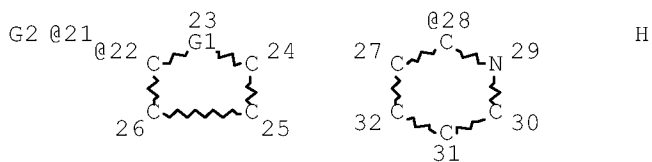
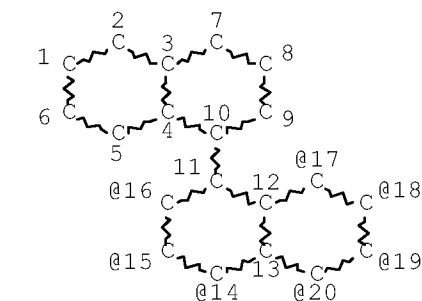


NODE ATTRIBUTES:  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RSPEC I  
 NUMBER OF NODES IS 20

STEREO ATTRIBUTES: NONE

L5 16397 SEA FILE=REGISTRY SSS FUL L3  
 L6 5 SEA FILE=REGISTRY ABB=ON PLU=ON L5 AND L2  
 L8 553 SEA FILE=HCAPLUS ABB=ON PLU=ON L6  
 L10 QUE ABB=ON PLU=ON LUM!N? OR ELECTROLUM!N? OR ORGANOLUM  
 !N? OR (ELECTRO OR ORGANO OR ORG#) (2A)LUM!N? OR LIGHT?(2A  
 ) (EMIT? OR EMISSION?) OR EL OR E(W)L OR L(W)E(W)D OR OLED  
 OR LED  
 L21 STR



Page 1-A

y @33

Page 1-B

VAR G1=O/S

VAR G2=22/28/33/34/40/43/X/T-BU/I-PR/CN/ME/ET/PR

VAR G3=ME/T-BU/I-BU/N-BU/HY

VAR G4=AK/CB

VPA 21-17/18/19/20/14/15/16 U

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

ECOUNT IS X3 C E3 N AT 33

GRAPH ATTRIBUTES:

RSPEC I

NUMBER OF NODES IS 45

STEREO ATTRIBUTES: NONE

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 L28 2613 SEA FILE=HCAPLUS ABB=ON PLU=ON L27  
 L30 76 SEA FILE=HCAPLUS ABB=ON PLU=ON L28(L) L10  
 L31 1 SEA FILE=HCAPLUS ABB=ON PLU=ON L30 AND L1  
 L32 17 SEA FILE=HCAPLUS ABB=ON PLU=ON L8(L) L10  
 L33 28 SEA FILE=HCAPLUS ABB=ON PLU=ON L8 AND L10  
 L34 94 SEA FILE=HCAPLUS ABB=ON PLU=ON (L30 OR L31 OR L32 OR  
 L33)  
 L35 81 SEA FILE=HCAPLUS ABB=ON PLU=ON L34 AND (1840-2004)/PRY,AY  
 ,PY  
 L37 68 SEA FILE=HCAPLUS ABB=ON PLU=ON L35 AND OPTIC?/SC,SX

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L37 ANSWER 1 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2007:88131 HCAPLUS Full-text

DOCUMENT NUMBER: 146:193433

 TITLE: Electroluminescent materials and  
 electroluminescent elements using them

 INVENTOR(S): Kita, Hiroshi; Suzuri, Yoshiyuki; Yamada,  
 Taketoshi; Nakamura, Kazuaki; Ueda, Noriko; Okubo,  
 Yasushi

PATENT ASSIGNEE(S): Konica Corporation, Japan

 SOURCE: U.S. Pat. Appl. Publ., 60pp., Cont.-in-part of  
 U.S. Ser. No. 653,842.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

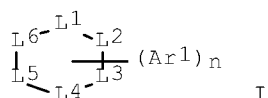
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 20070020485	A1	20070125	US 2006-493108	20060726

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10/774,577

US 6656608	B1	20031202	US 1999-466949	19991220
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EP 1013740	A2	20000628	EP 1999-125813	19991223
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EP 1013740	A3	20020130		
EP 1013740	B1	20061011		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,				
PT, IE, SI, LT, LV, FI, RO				
KR 2000052560	A	20000825	KR 1999-61534	19991224
			<--	
US 20040096696	A1	20040520	US 2003-652949	20030828
			<--	
US 7264890	B2	20070904		
US 20040072019	A1	20040415	US 2003-653842	20030902
			<--	
US 20040058195	A1	20040325	US 2003-656098	20030904
			<--	
US 7316851	B2	20080108		
US 20040062951	A1	20040401	US 2003-661857	20030911
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JP 2007177252	A	20070712	JP 2007-19223	20070130
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PRIORITY APPLN. INFO.:			JP 1998-370452	A 19981225
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			JP 1999-246404	A 19990831
			<--	
			US 1999-466949	A3 19991220
			<--	
			EP 1999-125813	A 19991223
			<--	
			KR 1999-61534	A 19991224
			<--	
			US 2003-653842	B2 20030902
			<--	
			JP 1999-365996	A3 19991224
			<--	
OTHER SOURCE(S): MARPAT 146:193433				
ED Entered STN: 26 Jan 2007				
GI				



AB Electroluminescent materials described by the general formula I (Ar<sup>1</sup> is an aryl group or an aromatic heterocyclic group; n is an integer of from 0 to 6; L<sup>1</sup>-6 = independently selected atoms or a group of atoms necessary to form a 6-membered nitrogen-containing aromatic heterocyclic group, provided that ≥1 of L<sup>1</sup>-6 = :N- or -N(R<sup>1</sup>)-; R<sup>1</sup> = H or a substituent, provided that ≥1 of Ar<sup>1</sup> and R<sup>1</sup> = a biaryl group having a bond capable of giving an internal rotational isomerism or a group comprising the biaryl group, provided that adjacent substituent groups existing in the mol. may be condensed with each other to form a ring and Ar<sup>1</sup> may be attached directly to the 6-membered nitrogen-

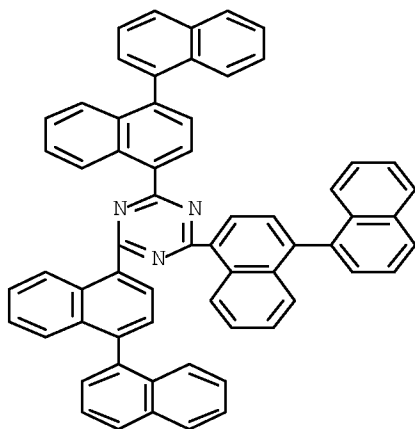
containing ring or may be indirectly attached via one or more substituents on the 6-membered ring) are described in which the electroluminescent material is a mixture comprising  $\geq 2$  diastereomers represented by I in which  $\geq 2$  of Ar1 and R1 are biaryl groups having a bond capable of giving an internal rotational isomerism or a group comprising the biaryl group. Electroluminescent devices comprising the electroluminescent materials, optionally with an inorg. fluorescent substance or rare earth metal complex capable of emitting light having a wavelength of a maximum emission different from that of light emitted from the electroluminescent material upon absorption of the light emitted from the electroluminescent material, are also described.

IT 278610-92-7

(electroluminescent materials based on rotational diastereomer mixts. and electroluminescent elements using them)

RN 278610-92-7 HCAPLUS

CN 1,3,5-Triazine, 2,4,6-tris([1,1'-binaphthalen]-4-yl)- (CA INDEX NAME)



INCL 428690000; 544180000; 544349000; 544357000; 546101000; 546152000; 546167000; 546171000; 546004000; 546010000

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 28, 76

IT 278610-92-7 278611-23-7 920969-08-0, 5,5'-

Bibenzo[h]quinoline 920969-09-1 920976-08-5 920976-09-6

(electroluminescent materials based on rotational diastereomer mixts. and electroluminescent elements using them)

L37 ANSWER 2 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2006:403965 HCAPLUS Full-text

DOCUMENT NUMBER: 144:422277

TITLE: Oligonaphthalene derivatives, and light-emitting element and light-emitting device using oligonaphthalene derivatives

INVENTOR(S): Nakashima, Harue; Kawakami, Sachiko; Nomura, Ryoji

PATENT ASSIGNEE(S): Semiconductor Energy Laboratory Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 64 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1652902	A1	20060503	EP 2005-23304	20051025
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US 20060093857	A1	20060504	US 2005-249362	20051014
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CN 1769251	A	20060510	CN 2005-10128374	20051028
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JP 2006151966	A	20060615	JP 2005-315650	20051031
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PRIORITY APPLN. INFO.:			JP 2004-315669	A 20041029
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OTHER SOURCE(S): MARPAT 144:422277

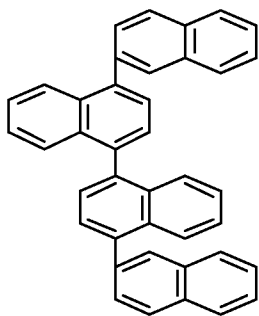
ED Entered STN: 04 May 2006

AB The present invention provides a novel material capable of realizing excellent color purity of blue, a light-emitting element and a light-emitting device using the novel material. The present invention provides an oligonaphthalene derivative Ar1(Ar2)nAr3 [n = 1,2; Ar1,3 = R-substituted naphthyl; Ar2 = R-substituted naphthalenediyl; R = H, linear or branched C<6 alkyl, alicyclic alkyl (un)substituted aromatic, heteroarom., alkoxy amino, cyano silyl, ester carbonyl of halo]. The oligonaphthalene derivs. of the present invention have an extremely large band gap, can emit light with extremely short wavelength, and can emit blue light with favorable color purity. A light-emitting element that can exhibit excellent color purity of blue can be obtained by applying this material to the light-emitting element or a light-emitting device; therefore the light-emitting element having superior color reproducibility can be provided.

IT 861909-12-8P, 2,1':4',1'':4'',2'''-Quaternaphthalene  
 (oligonaphthalene derivs., and light-emitting  
 element and light-emitting device using  
 oligonaphthalene derivs.)

RN 861909-12-8 HCAPLUS

CN 2,1':4',1'':4'',2'''-Quaternaphthalene (9CI) (CA INDEX NAME)



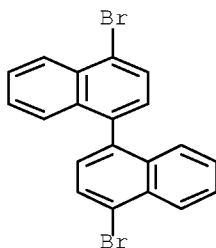
IT 49610-35-7, 4,4'-Dibromo-1,1'-binaphthyl  
 (oligonaphthalene derivs., and light-emitting

10/774,577

element and light-emitting device using  
oligonaphthalene derivs.)

RN 49610-35-7 HCAPLUS

CN 1,1'-Binaphthalene, 4,4'-dibromo- (CA INDEX NAME)



CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other  
Related Properties)

ST oligonaphthalene electroluminescent device

IT Electroluminescent devices  
(oligonaphthalene derivs., and light-emitting  
element and light-emitting device using  
oligonaphthalene derivs.)

IT 83-53-4P, 1,4-Dibromonaphthalene 861909-12-8P,  
2,1':4',1'':4'',2'''-Quaternaphthalene 884509-08-4P,  
2,1':5',2'''-Ternaphthalene  
(oligonaphthalene derivs., and light-emitting  
element and light-emitting device using  
oligonaphthalene derivs.)

IT 2243-62-1, 1,5-Diamino naphthalene 32316-92-0, 2-Naphthyl boronic  
acid 49610-35-7, 4,4'-Dibromo-1,1'-binaphthyl 884509-11-9,  
2,1':4',2'''-Ternaphthalene  
(oligonaphthalene derivs., and light-emitting  
element and light-emitting device using  
oligonaphthalene derivs.)

IT 27715-44-2P, 1,5-Diiodo naphthalene  
(oligonaphthalene derivs., and light-emitting  
element and light-emitting device using  
oligonaphthalene derivs.)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR  
THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
RE FORMAT

L37 ANSWER 3 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:979216 HCAPLUS Full-text

DOCUMENT NUMBER: 143:275302

TITLE: Organic luminescent material for organic  
electroluminescent device

INVENTOR(S): Matsunami, Shigeyuki; Takada, Kazunori

PATENT ASSIGNEE(S): Sony Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 27 pp.  
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

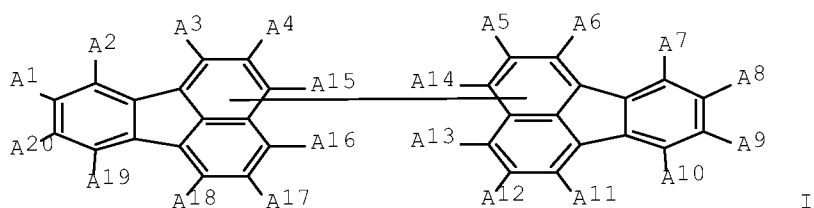
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

10/774,577

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005240008	A	20050908	JP 2004-280869	20040928
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PRIORITY APPLN. INFO.:			JP 2004-17910	A 20040127
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OTHER SOURCE(S):           MARPAT 143:275302  
ED   Entered STN:   08 Sep 2005  
GI

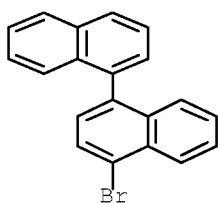


AB    The invention relates to an organic luminescent material, suited for used in an organic electroluminescent device, represented by I [A1-20 = N, halo, OH, C≤20 carboxyl, C<20 carboxylate, C≤20 alkyl, C≤20 alkenyl, C≤20 alkoxy, C≤30 aryl, C≤30 heterocyclic, CN, NO2, and SiH3].

IT    49610-33-5 49610-35-7 863878-57-3  
          (orgnamic luminescent material for organic electroluminescent device)

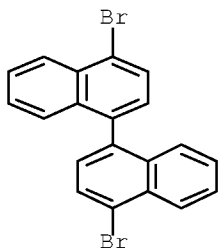
RN    49610-33-5   HCAPLUS

CN    1,1'-Binaphthalene, 4-bromo-   (CA INDEX NAME)

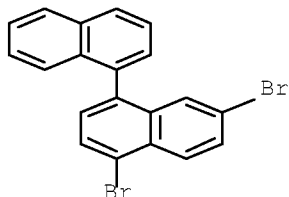


RN    49610-35-7   HCAPLUS

CN    1,1'-Binaphthalene, 4,4'-dibromo-   (CA INDEX NAME)



RN 863878-57-3 HCAPLUS  
 CN 1,1'-Binaphthalene, 4,7-dibromo- (CA INDEX NAME)



IC ICM C09K011-06  
 ICS H05B033-14  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other  
 Related Properties)  
 Section cross-reference(s): 25  
 ST org luminescent material bifluoranthene  
 electroluminescent device  
 IT Electroluminescent devices  
 Fluorescent substances  
 (organic luminescent material for organic  
 electroluminescent device)  
 IT 18351-87-6P, 3,3'-Bifluoranthene 863878-54-0P, 8,8'-Bifluoranthene  
 863878-55-1P, 2,2'-Bifluoranthene 863878-56-2P 863878-60-8P  
 863878-63-1P  
 (organic luminescent material for organic  
 electroluminescent device)  
 IT 2969-58-6 13438-50-1 26885-42-7 49610-33-5  
 49610-35-7 73183-34-3 244205-40-1 851756-50-8  
 863878-57-3  
 (organic luminescent material for organic  
 electroluminescent device)  
 IT 863878-53-9P 863878-58-4P 863878-59-5P 863878-61-9P  
 863878-62-0P  
 (organic luminescent material for organic  
 electroluminescent device)

L37 ANSWER 4 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2005:735143 HCAPLUS Full-text  
 DOCUMENT NUMBER: 143:202688  
 TITLE: Novel blue emitters for use in organic  
 electroluminescence devices  
 INVENTOR(S): Coggan, Jennifer A.; Hu, Nan-Xing; Aziz, Hany  
 PATENT ASSIGNEE(S): Xerox Corporation, USA  
 SOURCE: U.S. Pat. Appl. Publ., 21 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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10/774,577

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US 20050175857	A1	20050811	US 2004-774577	20040209
			<--	
JP 2005222948	A	20050818	JP 2005-28449	20050204
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EP 1580250	A2	20050928	EP 2005-250649	20050204
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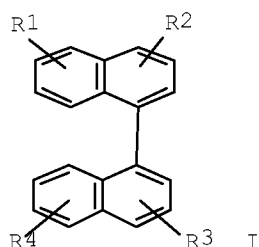
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,  
PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU,  
PL, SK, BA, HR, IS, YU

PRIORITY APPLN. INFO.: US 2004-774577 A 20040209  
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OTHER SOURCE(S): MARPAT 143:202688

ED Entered STN: 12 Aug 2005

GI



AB The invention refers to an ~~electroluminescent~~ (EL) is provided comprising an anode, an organic ~~electroluminescent~~ element, and a cathode wherein the ~~electroluminescent~~ element contains, for example, a fluorescent 1,1'-binaphthyl derivative component I [R1-4 = H, or C1-25 alkyl, C3-15 alicyclic alkyl, (un)C 6-30 substituted aryl, C atoms from 4 to 24 necessary to complete a fused aromatic ring of naphthalene, anthracene, perylene and the like, C3-15 alicyclic alkyl, Si which may be substituted with a tri-Me, diphenylmethyl, tri-Ph group and the like, C5-24 (un)substituted heteroaryl, C atoms necessary to complete a fused heteroarom. ring of furyl, thienyl, pyridyl, quinolinyl and other heterocyclic systems, C1-25 alkoxy, amino, alkyl amino or aryl amino, halo, cyano, and the like].

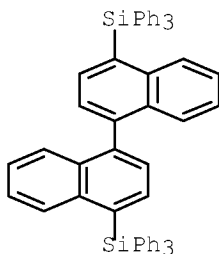
IT 676553-38-1P 861909-12-8P, 2,1':4',1'':4'',2'''-

Quaternaphthalene

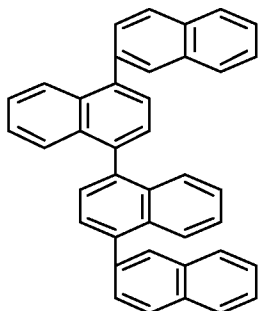
(novel blue emitters for use in organic ~~electroluminescence~~ devices)

RN 676553-38-1 HCAPLUS

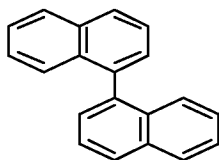
CN 1,1'-Binaphthalene, 4,4'-bis(triphenylsilyl)- (CA INDEX NAME)



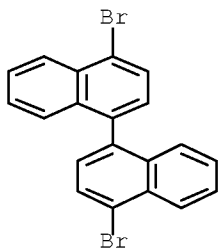
RN 861909-12-8 HCAPLUS  
 CN 2,1':4',1'':4'',2'''-Quaternaphthalene (9CI) (CA INDEX NAME)



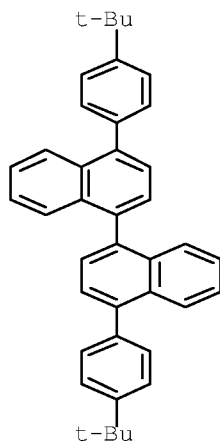
IT 604-53-5, 1,1'-Binaphthalene  
 (novel blue emitters for use in organic electroluminescence devices)  
 RN 604-53-5 HCAPLUS  
 CN 1,1'-Binaphthalene (CA INDEX NAME)



IT 49610-35-7P, 4,4'-Dibromo-1,1'-binaphthyl  
 (novel blue emitters for use in organic electroluminescence devices)  
 RN 49610-35-7 HCAPLUS  
 CN 1,1'-Binaphthalene, 4,4'-dibromo- (CA INDEX NAME)



IT 861909-11-7P  
 (novel blue emitters for use in organic electroluminescence devices)  
 RN 861909-11-7 HCAPLUS  
 CN 1,1'-Binaphthalene, 4,4'-bis[4-(1,1-dimethylethyl)phenyl]- (CA INDEX NAME)



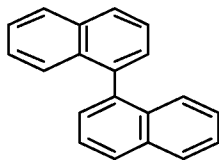
IC ICM H05B033-14  
 INCL 428690000; 428917000; 313504000; 313506000; 257103000  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 ST electroluminescence device binaphthyl fluorescent material  
 IT Electroluminescent devices  
 Fluorescent substances  
 (novel blue emitters for use in organic electroluminescence devices)  
 IT 676553-38-1P 861909-12-8P, 2,1':4',1'':4'',2'''-Quaternaphthalene  
 (novel blue emitters for use in organic electroluminescence devices)  
 IT 76-86-8, Triphenylsilyl chloride 604-53-5, 1,1'-Binaphthalene 7726-95-6, Bromine, reactions 32316-92-0, 2-Naphthalene boronic acid 123324-71-0, 4-tert-Butylphenyl boronic acid  
 (novel blue emitters for use in organic electroluminescence devices)  
 IT 49610-35-7P, 4,4'-Dibromo-1,1'-binaphthyl  
 (novel blue emitters for use in organic electroluminescence devices)  
 IT 861909-11-7P  
 (novel blue emitters for use in organic electroluminescence devices)

L37 ANSWER 5 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2005:540633 HCAPLUS Full-text  
 DOCUMENT NUMBER: 143:68043  
 TITLE: Use of platinum II complexes as luminescent materials in organic light-emitting diodes (OLEDs)

10/774,577

INVENTOR(S): Lennartz, Christian; Vogler, Arnd; Pawlowski, Valeri  
 PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Germany  
 SOURCE: PCT Int. Appl., 30 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005056712	A1	20050623	WO 2004-EP13944	20041208
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W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10358665	A1	20050707	DE 2003-10358665	20031212
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EP 1692244	A1	20060823	EP 2004-803620	20041208
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EP 1692244	B1	20070411		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS				
CN 1890347	A	20070103	CN 2004-80036894	20041208
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AT 359340	T	20070515	AT 2004-803620	20041208
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JP 2007514029	T	20070531	JP 2006-543464	20041208
<--				
US 20070111025	A1	20070517	US 2006-580836	20060526
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PRIORITY APPLN. INFO.:			DE 2003-10358665	A 20031212
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			WO 2004-EP13944	W 20041208
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OTHER SOURCE(S): MARPAT 143:68043				
ED Entered STN: 23 Jun 2005				
AB The use is described of neutral platinum II complexes of bidentate (hetero)arylphosphine derivs., o-phenanthroline derivs, and bipyridyl derivs. as emitter mols. in organic light-emitting diodes (OLEDs). The use of the platinum II complexes as a light-emitting layer in OLEDs, a light-emitting layer containing ≥1 platinum II complex, an OLED containing the light-emitting layer, and devices, especially displays, comprising the OLEDs are also described.				
IT 604-53-5, 1,1'-Binaphthalene (platinum complex luminescent materials in organic light-emitting diodes)				
RN 604-53-5 HCAPLUS				
CN 1,1'-Binaphthalene (CA INDEX NAME)				



IC ICM C09K011-06  
ICS H01L051-30

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other  
Related Properties)  
Section cross-reference(s): 74, 76, 78

ST org light emitting diode platinum complex  
luminescent material

IT Electroluminescent devices  
(displays, organic; platinum complex luminescent  
materials in organic light-emitting  
diodes)

IT Luminescent screens  
(electroluminescent, organic; platinum complex  
luminescent materials in organic light-  
emitting diodes)

IT Electroluminescent devices  
(organic; platinum complex luminescent materials  
in organic light-emitting diodes)

IT Luminescent substances  
(platinum complex luminescent materials in organic  
light-emitting diodes)

IT 592-06-3, Platinum dicyanide 604-53-5, 1,1'-Binaphthalene  
1662-01-7, 4,7-Diphenyl-1,10-phenanthroline 13991-08-7,  
1,2-Bis(diphenylphosphino)benzene 72914-19-3  
(platinum complex luminescent materials in organic  
light-emitting diodes)

IT 127793-58-2P 134494-09-0P 850449-34-2P 850449-35-3P  
(platinum complex luminescent materials in organic  
light-emitting diodes)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR  
THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
RE FORMAT

L37 ANSWER 6 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:429504 HCAPLUS Full-text

DOCUMENT NUMBER: 142:472274

TITLE: Organic light-emitting material and its  
preparation method

INVENTOR(S): Takada, Ichinori; Ueda, Naoyuki

PATENT ASSIGNEE(S): Sony Corporation, Japan

SOURCE: PCT Int. Appl., 54 pp.  
CODEN: PIXXD2

DOCUMENT TYPE: Patent

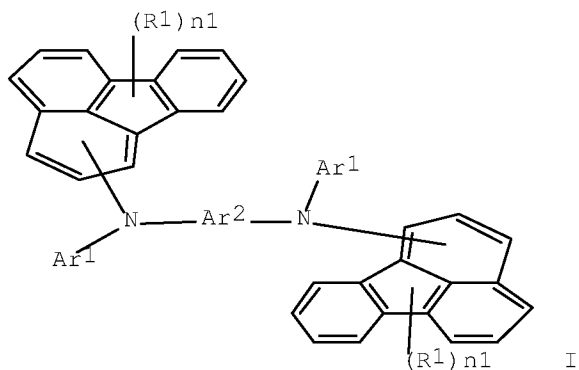
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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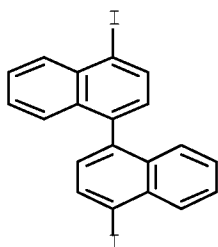
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WO 2005044943	A1	20050519	WO 2004-JP16803	20041105
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W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
JP 2006096964	A	20060413	JP 2004-315486	20041029
			<--	
CN 1906267	A	20070131	CN 2004-80040055	20041105
			<--	
US 20070149815	A1	20070628	US 2006-595710	20060525
			<--	
PRIORITY APPLN. INFO.:			JP 2003-377904	A 20031107
			<--	
			JP 2004-255344	A 20040902
			<--	
			JP 2004-315486	A 20041029
			<--	
			WO 2004-JP16803	W 20041105
			<--	
OTHER SOURCE(S):	MARPAT 142:472274			
ED Entered STN:	20 May 2005			
GI				



AB Disclosed is an organic light-emitting material which is characterized by being represented by the general formula I and used in a light-emitting layer of a green light-emitting device. In the general formula I, n1 is an integer of not less than 1 and not more than 3; R1 represents an alkyl group having 10 or less carbon atoms; Ar1 represents a monovalent group which is derived from a monocyclic or condensed-ring aromatic hydrocarbon having 20 or less carbon

atoms, and may have a substituent having 10 or less carbon atoms; and Ar<sub>2</sub> represents a divalent group which is derived from a ring assembly including 1-3 rings, having 30 or less carbon atoms and being constituted by a monocyclic or condensed-ring aromatic hydrocarbon, and may have a substituent having 4 or less carbon atoms. Consequently, there is provided a more highly reliable organic light-emitting material with sufficiently good luminous efficiency and color purity which is suitable for constituting a green light-emitting layer. Also disclosed is a method for producing such an organic light-emitting material.

IT 62012-57-1  
 (organic light-emitting material and preparation method)  
 RN 62012-57-1 HCAPLUS  
 CN 1,1'-Binaphthalene, 4,4'-diiodo- (CA INDEX NAME)



IC ICM C09K011-06  
 ICS H05B033-14; C07C211-61; C07C209-06  
 CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 Section cross-reference(s): 22  
 IT 62-53-3, Benzenamine, reactions 90-41-5, [1,1'-Biphenyl]-2-amine  
 92-67-1, [1,1'-Biphenyl]-4-amine 95-53-4, reactions 106-49-0,  
 reactions 108-44-1, reactions 134-32-7, 1-Naphthalenamine  
 531-91-9 2243-47-2, [1,1'-Biphenyl]-3-amine 3001-15-8  
 13438-50-1, 3-Bromofluoranthene 62012-57-1 63277-99-6  
 851767-85-6  
 (organic light-emitting material and preparation method)  
 REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR  
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
 RE FORMAT

L37 ANSWER 7 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2005:302704 HCAPLUS Full-text  
 DOCUMENT NUMBER: 142:381895  
 TITLE: Composition for manufacture of organic  
 electroluminescent devices and the devices  
 INVENTOR(S): Ogata, Tomoyuki; Soma, Minoru; Iida, Koichiro  
 PATENT ASSIGNEE(S): Mitsubishi Chemical Corp., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 35 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005093428	A	20050407	JP 2004-234438	20040811
			<--	
US 20060182993	A1	20060817	US 2006-278772	20060405
			<--	
PRIORITY APPLN. INFO.:			JP 2003-293426	A 20030814
			<--	
			JP 2004-233676	A 20040810
			<--	
			JP 2004-234438	A 20040811
			<--	

ED Entered STN: 08 Apr 2005

AB The claimed composition contains solvents and functional compds., hole injection/transport materials and/or electron accepting compds., for formation of  $\geq 1$  of hole injection layers and/or  $\geq 1$  of hole transport layers in organic electroluminescent devices. In the composition, concns. of  $\geq 1$  compds. selected from (1) and (2) are  $\geq 10$  weight%: (1) ether solvents and/or ester solvents; (2) solvents with H<sub>2</sub>O solubility  $\leq 1$  weight% at 25°. Also claimed are organic electroluminescent devices having  $\geq 1$  of hole injection layers and/or  $\geq 1$  of hole transport layers which are formed by wet coating of the composition. The functional compds. have high solubility to the solvents and the composition has high affinity to under layers, so that uniform layers can be formed. The electroluminescent devices have high luminescent efficiency.

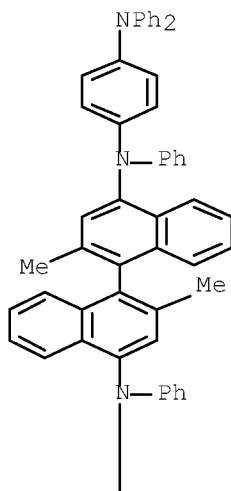
IT 640772-70-9

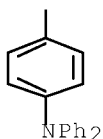
(composition for formation of uniform hole injection/transport layer for organic electroluminescent device)

RN 640772-70-9 HCAPLUS

CN [1,1'-Binaphthalene]-4,4'-diamine, N4,N4'-bis[4-(diphenylamino)phenyl]-2,2'-dimethyl-N4,N4'-diphenyl- (CA INDEX NAME)

PAGE 1-A



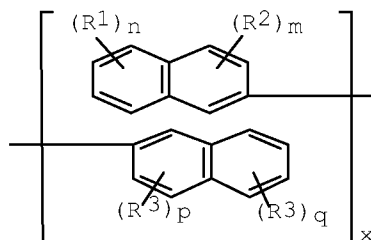


IC ICM H05B033-22  
ICS H05B033-14  
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other  
Related Properties)  
IT 1109-15-5, Tris(pentafluorophenyl)borane 533935-00-1  
640772-70-9  
(composition for formation of uniform hole injection/transport layer for  
organic electroluminescent device)

L37 ANSWER 8 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 2005:158711 HCAPLUS Full-text  
DOCUMENT NUMBER: 142:249456  
TITLE: Electroluminescent polymers, organic  
electroluminescent devices and displays  
INVENTOR(S): Tsukioka, Miyuki; Sunaga, Tomoyasu; Ishii,  
Junichi; Yanagibori, Susumu  
PATENT ASSIGNEE(S): Sony Chemicals Corp., Japan  
SOURCE: PCT Int. Appl., 41 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005016992	A1	20050224	WO 2004-JP11175	20040804
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W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2005060571	A	20050310	JP 2003-293584	20030814
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JP 3915757	B2	20070516		
CN 1867603	A	20061122	CN 2004-80030014	20040804
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US 20070032632	A1	20070208	US 2006-567124	20060206
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PRIORITY APPLN. INFO.:			JP 2003-293584	A 20030814
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ED Entered STN: 24 Feb 2005  
GI

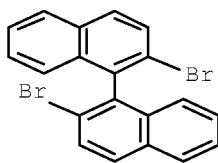


AB Novel electroluminescent (EL) polymers which little form cohesion structure in film formation and little cause morphol. change even after film formation and which exhibit stable EL characteristics. The polymers comprise binaphthyl derivative structural units represented by the general formula I (R1-4 = substituent; each moiety represented by both a dotted line and a solid line represents an unsatd. double bond or a saturated single bond; m, p = 0-2; n, o = 0-8; x = the mole fraction of the binaphthyl derivative structural units) and aryl structural units represented by the general formula -[Ar]y- (Ar = aryl structural unit capable of forming electroluminescent  $\pi$ -conjugated polymer; y = the mole fraction of the aryl structural units).

IT 74866-28-7P, 2,2'-Dibromo-1,1'-binaphthyl  
(monomer preparation; electroluminescent  $\pi$ -conjugated polymers, organic electroluminescent devices and displays)

RN 74866-28-7 HCAPLUS

CN 1,1'-Binaphthalene, 2,2'-dibromo- (CA INDEX NAME)



IC ICM C08G061-10  
ICS C09K011-06; H05B033-14

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38, 73

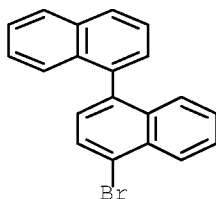
IT 7351-74-8P, 1,5-Dibromonaphthalene 13029-09-9P, 2,2'-Dibromo-1,1'-biphenyl 19542-05-3P, 2,5-Bis(4-bromophenyl)-1,3,4-oxadiazole  
74866-28-7P, 2,2'-Dibromo-1,1'-binaphthyl 176714-72-0P  
188200-93-3P, 2,7-Dibromo-9,9-di(2-ethylhexyl)fluorene 196207-58-6P  
198964-46-4P, 2,7-Dibromo-9,9-dioctylfluorene 845526-91-2P  
(monomer preparation; electroluminescent  $\pi$ -conjugated polymers, organic electroluminescent devices and displays)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR  
THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
RE FORMAT

L37 ANSWER 9 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 2005:57666 HCAPLUS Full-text  
DOCUMENT NUMBER: 142:165277  
TITLE: Organic electroluminescent devices containing  
oligonaphthalene compounds and showing stable blue  
emission  
INVENTOR(S): Takada, Kazunori; Sakamoto, Hidesaku; Ichimura,  
Mari; Tamura, Shinichiro  
PATENT ASSIGNEE(S): Sony Corp., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2005019219	A	20050120	JP 2003-182779	20030626
			<--	
PRIORITY APPLN. INFO.:			JP 2003-182779	20030626
			<--	

OTHER SOURCE(S): MARPAT 142:165277  
ED Entered STN: 21 Jan 2005  
AB The devices, showing long service life and high luminescent efficiency, have  
emitting layers containing [C1-4 alkyl(oxy)- and/or amino-substituted] di-,  
tri-, and/or tetranaphthalene compds.  
IT 49610-33-5, 4-Bromo-1,1'-binaphthalene  
(organic electroluminescent devices containing oligonaphthalene  
compds. and showing stable blue emission)  
RN 49610-33-5 HCAPLUS  
CN 1,1'-Binaphthalene, 4-bromo- (CA INDEX NAME)

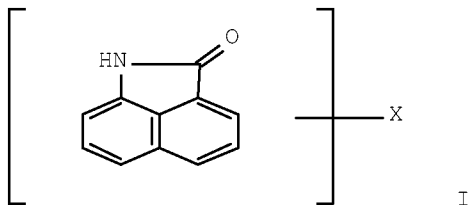


IC ICM H05B033-14  
ICS C09K011-06; H05B033-22; C07C015-24; C07C211-58  
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other  
Related Properties)  
Section cross-reference(s): 25  
IT 32316-92-0 49610-33-5, 4-Bromo-1,1'-binaphthalene  
62156-75-6, 6-Bromo-2,2'-binaphthalene 817210-34-7  
(organic electroluminescent devices containing oligonaphthalene  
compds. and showing stable blue emission)

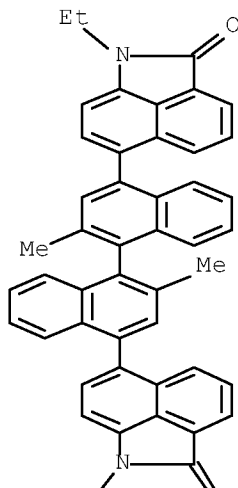
10/774,577

L37 ANSWER 10 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2004:1014710 HCAPLUS Full-text  
 DOCUMENT NUMBER: 142:13465  
 TITLE: Charge transporting material for electroluminescent device  
 INVENTOR(S): Takeuchi, Masako; Shiotani, Takeshi; Fugono, Masayo  
 PATENT ASSIGNEE(S): Mitsubishi Chemical Corp., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 48 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

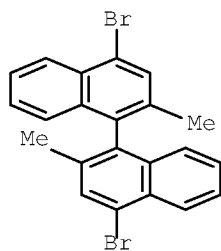
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2004335415	A	20041125	JP 2003-133434	20030512
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PRIORITY APPLN. INFO.:			JP 2003-133434	20030512
			<--	
OTHER SOURCE(S):	MARPAT 142:13465			
ED Entered STN:	25 Nov 2004			
GI				



AB Disclosed is a charge transporting material for an electroluminescent device, represented by I [X = n valent connecting group bonded to C and N atoms of lactam structure; and n = 2 or 3].  
 IT 797035-62-2P  
 (charge transporting material for electroluminescent device)  
 RN 797035-62-2 HCAPLUS  
 CN Benz[cd]indol-2(1H)-one, 6,6'-(2,2'-dimethyl[1,1'-binaphthalene]-4,4'-diyl)bis[1-ethyl- (9CI) (CA INDEX NAME)



IT 797035-61-1  
 (charge transporting material for electroluminescent device)  
 RN 797035-61-1 HCAPLUS  
 CN 1,1'-Binaphthalene, 4,4'-dibromo-2,2'-dimethyl- (CA INDEX NAME)



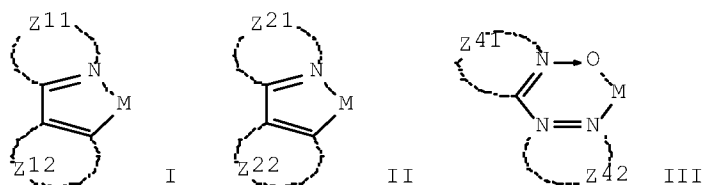
IC ICM H05B033-22  
 ICS C09K011-06; H05B033-14  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 IT 797035-62-2P  
 (charge transporting material for electroluminescent device)  
 IT 41503-32-6 73183-34-3 797035-61-1

(charge transporting material for electroluminescent device)

L37 ANSWER 11 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2004:739385 HCAPLUS Full-text  
 DOCUMENT NUMBER: 141:268179  
 TITLE: Long-life white-emitting organic electroluminescent devices, displays, illumination apparatus, and electric appliances therewith  
 INVENTOR(S): Fukuda, Mitsuhiro; Genda, Kazuo  
 PATENT ASSIGNEE(S): Konica Minolta Holdings, Inc., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 577 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004253298	A	20040909	JP 2003-43860	20030221
			<--	
PRIORITY APPLN. INFO.:			JP 2003-43860	20030221
			<--	

OTHER SOURCE(S): MARPAT 141:268179  
 ED Entered STN: 10 Sep 2004  
 GI



AB The devices have, in their constituent layers (e.g., emitting layers, hole- or electron-transporting layers), (i) compds. represented by  $X_1R_1C:CR_2X_2$  [ $X_1$ ,  $X_2$  = aryl, heterocycle;  $R_1$ ,  $R_2$  = aryl, heterocyclic hydrocarbyl, cycloalkoxy ( $R_1$  =  $R_2$  = aryl)],  $R_{11}R_{12}R_{13}R_{14}R_{15}P$  ( $R_{11}$ - $R_{15}$  = monovalent substituent),  $Ar_2Ar_1C_6H_4(m-Ar_1Ar_2)$  [ $Ar_1$  = bivalent aromatic hydrocarbylene;  $Ar_2$  = (substituted) Ph; H atom on the benzene ring may be substituted with (cyclo)alkyl, alkoxy, or halo],  $Z(ArQ)_n$  [ $Q$  = (substituted) o-(2-pyridyl)phenyl;  $Z$  = n-valent bridging group, single bond;  $Ar$  = bivalent arylene;  $n$  = 2-8], etc., (ii) fluorescent compds. with mol. weight 500-2000 and atomic ratio  $F/(F + H)$  0-0.9 and having fluorescent peak at  $\leq 415$  nm, (iii) polysilanes  $(R_{21}R_{22}Si)_n$  [ $R_{21}$ ,  $R_{22}$  = alkyl(oxy), aromatic group, aryloxy;  $n_1 \geq 3$ ] or  $[R_{31}(Ar_{31}NR_{32}R_{33})Si]_n$  [ $R_{31}$  = alkyl(oxy), aromatic group, aryloxy;  $R_{32}$ ,  $R_{33}$  = alkyl, aromatic group;  $Ar_{31}$  = arylene;  $n_2 \geq 3$ ], and/or (iv) fluorescent compds. satisfying atomic ratio  $N/C$  0-0.05. The devices, having phosphorescent dopants I ( $Z_{11}$  = aromatic azacycle;  $Z_{12}$  = nonarom. ring, 5-membered aromatic ring, azulene;  $M$  = metal), II ( $Z_{21}$ ,  $Z_{22}$  = aromatic azacycle;

10/774,577

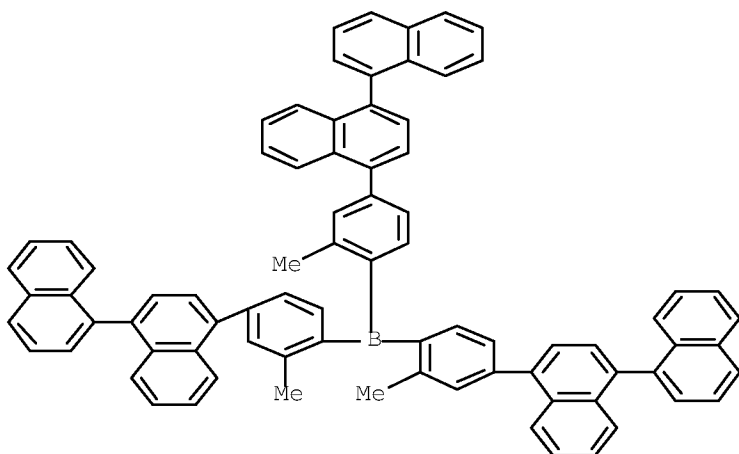
M = metal), or III (Z41 = azacycle; Z42 = ring; M = metal) in emitting layers, are also claimed. The devices exhibit high luminescent efficiency and substantially white emission, and are suited for light source uses, especially of LCD.

IT 492446-94-3 522630-12-2 522630-34-8  
643758-15-0 676553-38-1

(long-life white-emitting organic LED containing azacyclic phosphorescent dopants and showing high luminescent efficiency)

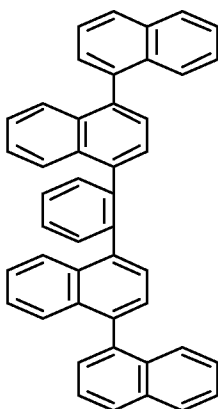
RN 492446-94-3 HCAPLUS

CN Borane, tris(4-[1,1'-binaphthalen]-4-yl-2-methylphenyl)- (CA INDEX NAME)



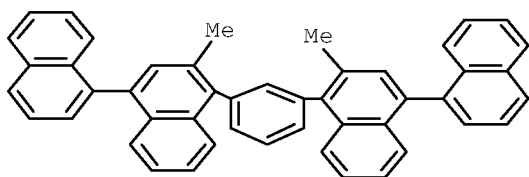
RN 522630-12-2 HCAPLUS

CN 1,1'-Binaphthalene, 4,4''-(1,2-phenylene)bis- (9CI) (CA INDEX NAME)



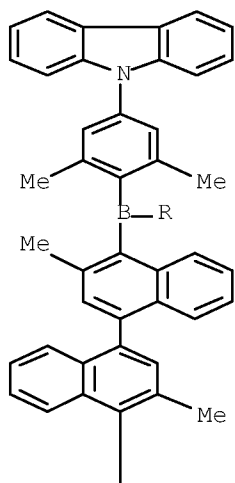
RN 522630-34-8 HCAPLUS

CN 1,1'-Binaphthalene, 4,4''-(1,3-phenylene)bis[3-methyl- (9CI) (CA INDEX NAME)

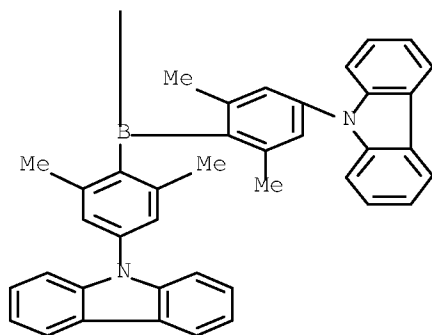


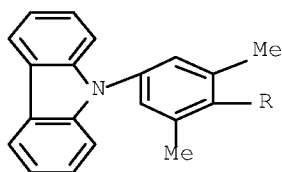
RN 643758-15-0 HCAPLUS  
 CN 9H-Carbazole, 9,9',9'',9'''-[(3,3'-dimethyl[1,1'-binaphthalene]-4,4'-diyl)bis[borylidynebis(3,5-dimethyl-4,1-phenylene)]]tetrakis- (9CI)  
 (CA INDEX NAME)

PAGE 1-A



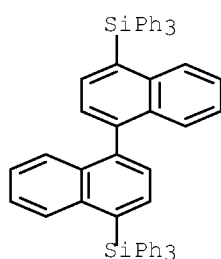
PAGE 2-A





RN 676553-38-1 HCAPLUS

CN 1,1'-Binaphthalene, 4,4'-bis(triphenylsilyl)- (CA INDEX NAME)

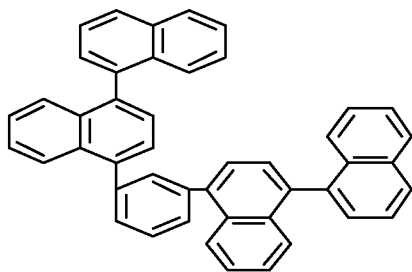


IT 522630-07-5P

(long-life white-emitting organic LED containing azacyclic phosphorescent dopants and showing high luminescent efficiency)

RN 522630-07-5 HCAPLUS

CN 1,1'-Binaphthalene, 4,4''-(1,3-phenylene)bis- (9CI) (CA INDEX NAME)

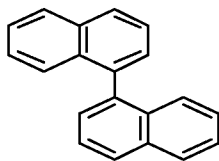


IT 604-53-5P, 1,1'-Binaphthalene 49610-33-5P

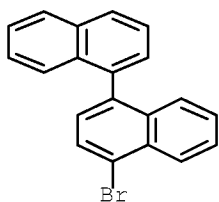
(long-life white-emitting organic LED containing azacyclic phosphorescent dopants and showing high luminescent efficiency)

RN 604-53-5 HCAPLUS

CN 1,1'-Binaphthalene (CA INDEX NAME)



RN 49610-33-5 HCAPLUS  
 CN 1,1'-Binaphthalene, 4-bromo- (CA INDEX NAME)



IC ICM H05B033-14  
 ICS C09K011-06; G02F001-1335; H05B033-22  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other  
 Related Properties)  
 Section cross-reference(s): 25, 28, 29, 38, 74  
 ST white emitting electroluminescent life luminescent  
 efficiency; phosphorescent azacyclic dopant luminescent  
 efficiency org LED; LCD light source  
 white emitting electrophosphorescent  
 IT luminescent substances  
 (electroluminescent, electrophosphorescent, host-guest;  
 long-life white-emitting organic LED containing azacyclic  
 phosphorescent dopants and showing high luminescent  
 efficiency)  
 IT Phosphorescent substances  
 (electrophosphorescent; long-life white-emitting organic LED  
 containing azacyclic phosphorescent dopants and showing high  
 luminescent efficiency)  
 IT Fluorescent substances  
 (fluorine- or nitrogen-containing; long-life white-emitting organic  
 LED containing azacyclic phosphorescent dopants and showing  
 high luminescent efficiency)  
 IT Liquid crystal displays  
 (light sources for; long-life white-emitting organic LED  
 containing azacyclic phosphorescent dopants and showing high  
 luminescent efficiency)  
 IT Electric apparatus  
 (long-life white-emitting organic LED containing azacyclic  
 phosphorescent dopants and showing high luminescent  
 efficiency)  
 IT Organometallic compounds  
 Polysilanes  
 (long-life white-emitting organic LED containing azacyclic  
 phosphorescent dopants and showing high luminescent

	efficiency)				
IT	Electroluminescent devices (white-emitting, electrophosphorescent; long-life white-emitting organic LED containing azacyclic phosphorescent dopants and showing high luminescent efficiency)				
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	65181-79-5	122107-04-4	133942-93-5	139376-06-0	142289-08-5
	203070-80-8	213621-16-0	219917-71-2	288581-17-9	300823-56-7
	300823-57-8	301300-11-8	332350-53-5	405171-49-5	405171-87-1
	405172-39-6	453590-51-7	478262-73-6	478262-74-7	478262-76-9
	478262-77-0	478262-78-1	478262-79-2	478370-42-2	
	<del>492446-94-3</del>	492446-97-6	497097-34-4	497097-36-6	
	511270-11-4	522630-08-6	<del>522630-12-2</del>	522630-19-9	
	522630-30-4	<del>522630-34-8</del>	522630-36-0	557787-50-5	
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	557787-58-3	557787-59-4	564483-87-0	567625-72-3	567625-73-4
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	583040-34-0	583040-40-8	587877-29-0	587877-33-6	587877-38-1
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	640773-68-8	643029-54-3	643029-58-7	643029-59-8	643029-60-1
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	(long-life white-emitting organic LED containing azacyclic phosphorescent dopants and showing high luminescent efficiency)				
IT	5660-43-5P	51445-93-3P	115533-27-2P	174291-37-3P	288297-90-5P
	344564-96-1P	522630-06-4P	<del>522630-07-5P</del>	557787-52-7P	
	567625-71-2P	567625-76-7P	567625-77-8P	569674-88-0P	
	569674-97-1P	643753-84-8P	669072-95-1P	676553-36-9P	
	705941-83-9P	754231-93-1P	754231-95-3P	754232-01-4P	
	754980-36-4P				
	(long-life white-emitting organic LED containing azacyclic phosphorescent dopants and showing high luminescent efficiency)				
IT	<del>604-53-5P</del> , 1,1'-Binaphthalene	5122-94-1P	16761-23-2P		

10/774,577

19264-73-4P 33170-68-2P ~~49610-33-5P~~ 50668-21-8P,  
3-Iodo-9-ethylcarbazole 77547-84-3P 85137-69-5P 103989-84-0P  
121073-89-0P 146232-42-0P 155886-75-2P 155886-83-2P  
263164-82-5P 288297-93-8P 288297-94-9P 288297-95-0P  
357437-74-2P 363607-69-6P 522630-41-7P 522630-42-8P  
567625-82-5P 567625-83-6P 643753-87-1P 643753-91-7P  
754232-02-5P

(long-life white-emitting organic LED containing azacyclic  
phosphorescent dopants and showing high luminescent  
efficiency)

IT 62-53-3, Aniline, reactions 67-64-1, Acetone, reactions 76-86-8,  
Triphenylchlorosilane 86-74-8, Carbazole 90-11-9,  
1-Bromonaphthalene 90-90-4, 4-Bromobenzophenone 92-66-0,  
4-Bromobiphenyl 95-54-5, 1,2-Phenylenediamine, reactions 98-80-6,  
Phenylboronic acid 99-97-8, N,N-Dimethyl-p-tolylamine 100-20-9,  
Terephthaloyl dichloride 106-37-6, 1,4-Dibromobenzene 106-38-7,  
4-Bromotoluene 108-36-1, 1,3-Dibromobenzene 108-94-1,  
Cyclohexanone, reactions 108-98-5, Thiophenol, reactions 110-13-4,  
2,5-Hexanedione 119-61-9, Benzophenone, reactions 119-93-7  
121-43-7, Trimethoxyborane 132-32-1, 3-Amino-9-ethylcarbazole  
302-01-2, Hydrazine, reactions 495-71-6, 1,2-Dibenzoylthane  
523-27-3, 9,10-Dibromoanthracene 583-53-9, 1,2-Dibromobenzene  
619-42-1, Methyl 4-bromobenzoate 623-27-8, 1,4-Diformylbenzene  
624-92-0, Dimethyl disulfide 626-19-7, 1,3-Benzenedicarboxaldehyde  
762-04-9, Diethyl phosphite 826-81-3, 2-Methyl-8-quinolinol  
885-39-2 931-50-0, Cyclohexylmagnesium bromide 1003-09-4,  
2-Bromothiophene 1074-24-4, 2,5-Dibromo-p-xylene 1592-95-6,  
3-BromoCarbazole 1730-04-7, 1,8-Diiodonaphthalene 1733-63-7  
2586-62-1, 1-Bromo-2-methylnaphthalene 2592-73-6,  
1,1-Dibromo-2,2-diphenylethylene 4546-04-7 6999-03-7,  
1-Bromo-4-trimethylsilylbenzene 10489-97-1, 1,1-Dibromocyclohexane  
38218-24-5, Indium isopropoxide 51044-13-4, 4-  
Bromobenzyltriphenylphosphonium bromide 65810-18-6,  
1,3,5-Cycloheptatriene-1-carboxaldehyde 95902-10-6,  
3-Bromobenzyltriphenylphosphonium bromide 643753-90-6 754232-00-3  
(long-life white-emitting organic LED containing azacyclic  
phosphorescent dopants and showing high luminescent  
efficiency)

L37 ANSWER 12 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:633116 HCAPLUS Full-text

DOCUMENT NUMBER: 141:181650

TITLE: Binaphthol based chromophores for the fabrication  
of blue organic light emitting diodes

INVENTOR(S): Bazan, Guillermo C.; Benmansour, Hadjar; Sato,  
Yoshiharu; Shioya, Takeshi

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 23 pp., Cont.-in-part of  
U.S. Pat. Appl. 2004 142,206.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 20040151945	A1	20040805	US 2004-759505	20040116
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US 20040142206	A1	20040722	US 2003-346667	20030117

PRIORITY APPLN. INFO.:

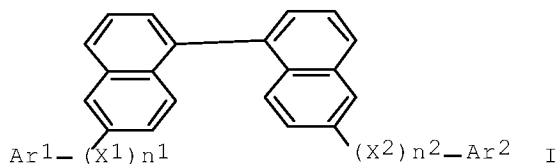
US 2003-346667

A2 20030117

OTHER SOURCE(S): MARPAT 141:181650

ED Entered STN: 06 Aug 2004

GI



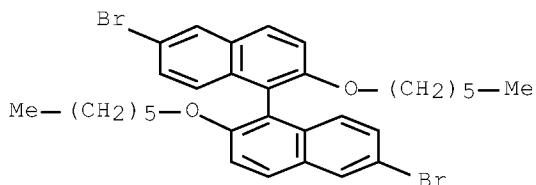
AB Binaphthol derivs. are described by the general formula I (Ar1 and Ar2 = independently selected (un)substituted aromatic hydrocarbon or (un)substituted aromatic heterocycle; each X1 and X2 = independently selected (un)substituted aromatic hydrocarbon; each n1 and n2 = independently 0 or 1; and the compound's binaphthyl framework can be independently substituted at any position except those occupied by (X1)<sub>n1</sub>Ar1 and (X2)<sub>n2</sub>Ar2). Fluorescent dyes are described which comprise the derivs. Organic light-emitting devices comprising an anode, a cathode and an emissive layer between the anode and cathode are also described which are provided with a layer comprising I.

IT 191787-87-8

(binaphthol-based chromophores and organic light-emitting diodes using them)

RN 191787-87-8 HCAPLUS

CN 1,1'-Binaphthalene, 6,6'-dibromo-2,2'-bis(hexyloxy)- (CA INDEX NAME)

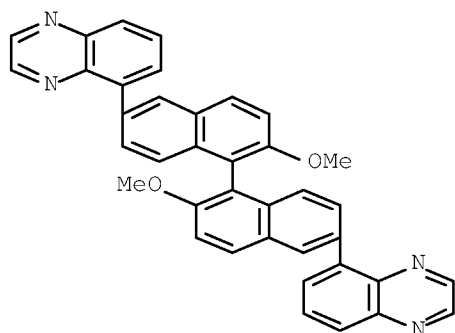


IT 732292-72-7

(hole-blocking layer; binaphthol-based chromophores and organic light-emitting diodes using them)

RN 732292-72-7 HCAPLUS

CN Quinoxaline, 5,5'-(2,2'-dimethoxy[1,1'-binaphthalene]-6,6'-diyl)bis-  
(9CI) (CA INDEX NAME)



IC ICM B32B009-00  
 INCL 428690000  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other  
 Related Properties)  
 Section cross-reference(s): 25, 41, 76  
 IT 100622-34-2, 9-Anthracene boronic acid 191787-87-8  
 496839-55-5  
 (binaphthol-based chromophores and organic light-  
 emitting diodes using them)  
 IT 732292-72-7  
 (hole-blocking layer; binaphthol-based chromophores and organic  
 light-emitting diodes using them)

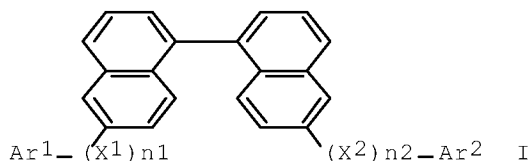
L37 ANSWER 13 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2004:589086 HCAPLUS [Full-text](#)  
 DOCUMENT NUMBER: 141:147847  
 TITLE: Binaphthol-based chromophores for the fabrication  
 of blue organic light-emitting diodes  
 INVENTOR(S): Bazan, Guillermo C.; Benmansour, Hadjar  
 PATENT ASSIGNEE(S): USA  
 SOURCE: U.S. Pat. Appl. Publ., 22 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20040142206	A1	20040722	US 2003-346667	20030117
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US 20040151945	A1	20040805	US 2004-759505	20040116
			<--	
WO 2004067675	A2	20040812	WO 2004-US1101	20040116
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WO 2004067675	A3	20041111		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA,			
	CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,			
	GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP,			
	KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,			
	MX, MZ, NA, NI			

PRIORITY APPLN. INFO.: US 2003-346667 A2 20030117  
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OTHER SOURCE(S): MARPAT 141:147847

ED Entered STN: 23 Jul 2004  
GI



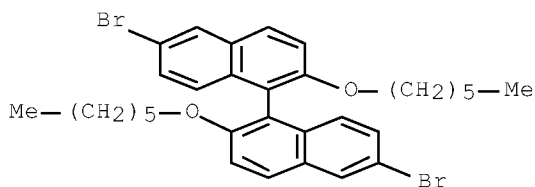
AB Binaphthol derivs. are described by the general formula I (Ar<sup>1</sup> and Ar<sup>2</sup> = independently selected (un)substituted aromatic hydrocarbon or (un)substituted aromatic heterocycle; each X<sup>1</sup> and X<sup>2</sup> = independently selected (un)substituted aromatic hydrocarbon; each n<sub>1</sub> and n<sub>2</sub> = independently 0 or 1; and the compound's binaphthyl framework can be independently substituted at any position except those occupied by (X<sup>1</sup>)<sub>n1</sub>Ar<sup>1</sup> and (X<sup>2</sup>)<sub>n2</sub>Ar<sup>2</sup>). Fluorescent dyes are described which comprise the derivs. Organic light-emitting devices comprising an anode, a cathode and an emissive layer between the anode and cathode are also described which are provided with a layer comprising I.

IT 191787-87-8

(binaphthol-based chromophores and organic light-emitting diodes using them)

RN 191787-87-8 HCAPLUS

CN 1,1'-Binaphthalene, 6,6'-dibromo-2,2'-bis(hexyloxy)- (CA INDEX NAME)



IC ICM H05B033-14

INCL 428690000; 428917000; 313504000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 25, 41, 76

IT 100622-34-2, 9-Anthracene boronic acid 191787-87-8  
496839-55-5

(binaphthol-based chromophores and organic light-emitting diodes using them)

L37 ANSWER 14 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:581914 HCAPLUS Full-text

DOCUMENT NUMBER: 141:270437

TITLE: Luminescent homochiral silver(I) lamellar coordination networks built from helical chains

AUTHOR(S): Wu, Chuan-De; Ngo, Helen L.; Lin, Wenbin

CORPORATE SOURCE: Department of Chemistry, University of North Carolina, Chapel Hill, NC, 27599, USA

SOURCE: Chemical Communications (Cambridge, United Kingdom) (2004), (14), 1588-1589  
 CODEN: CHCOFS; ISSN: 1359-7345  
 PUBLISHER: Royal Society of Chemistry  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 141:270437

ED Entered STN: 21 Jul 2004

AB The reactions of (S)-3,3'-bis(4-pyridylvinyl)-2,2'-dimethoxy-1,1'-binaphthyl (L) with AgNO<sub>3</sub> or AgClO<sub>4</sub> at 70° gave rise to two novel luminescent homochiral lamellar coordination polymers, AgL<sub>2</sub>X (X = NO<sub>3</sub><sup>-</sup> for 1 or ClO<sub>4</sub><sup>-</sup> for 2), which were characterized by x-ray crystallog., IR and CD spectroscopy, elemental anal. and TGA. The lamellar coordination networks in 1 and 2 are built from linking helical chains by Ag(I) atoms as hinges.

IT 756878-97-4P 756878-98-5P

(preparation and crystal and mol. structure and luminescence of homochiral lamellar network built from helical chains)

RN 756878-97-4 HCAPLUS

CN Silver(1+), bis[4-[(1E)-2-[(1S)-2,2'-dimethoxy-3'-[(1E)-2-(4-pyridinyl)ethenyl][1,1'-binaphthalen]-3-yl]ethenyl]pyridine-κN]-, nitrate (9CI) (CA INDEX NAME)

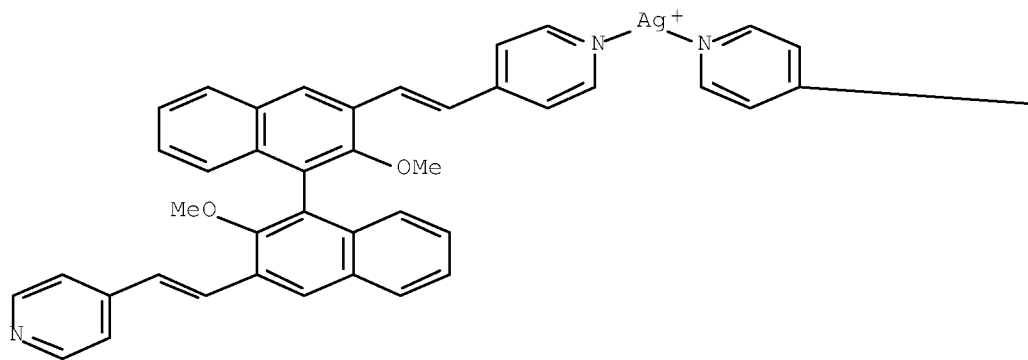
CM 1

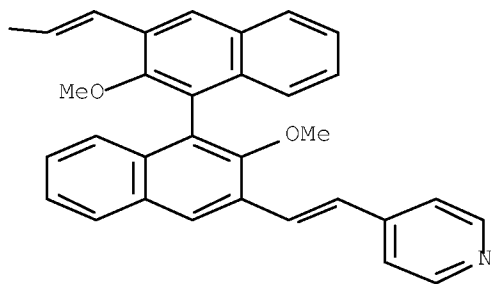
CRN 756878-96-3

CMF C72 H56 Ag N4 O4

CCI CCS

PAGE 1-A

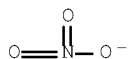




CM 2

CRN 14797-55-8

CMF N O3



RN 756878-98-5 HCAPLUS

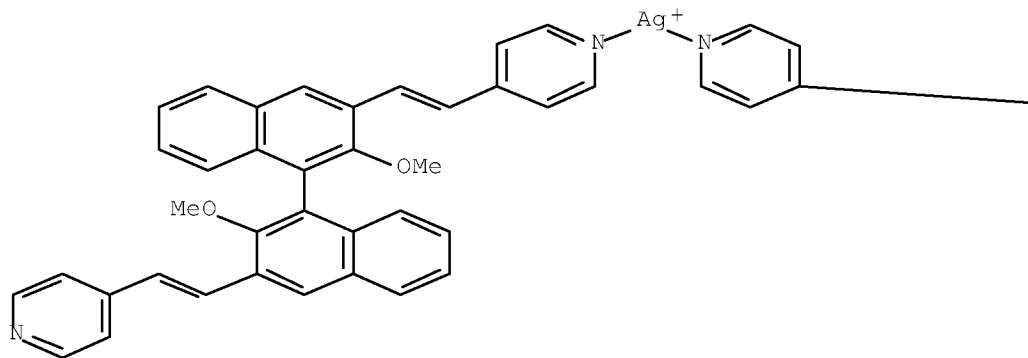
CN Silver(1+), bis[4-[(1E)-2-[(1S)-2,2'-dimethoxy-3'-[(1E)-2-(4-pyridinyl)ethenyl][1,1'-binaphthalen]-3-yl]ethenyl]pyridine-κN)]-, perchlorate (9CI) (CA INDEX NAME)

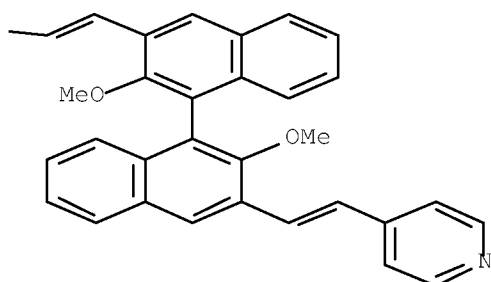
CM 1

CRN 756878-96-3

CMF C72 H56 Ag N4 O4

CCI CCS

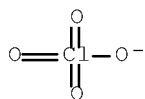




CM 2

CRN 14797-73-0

CMF C1 O4

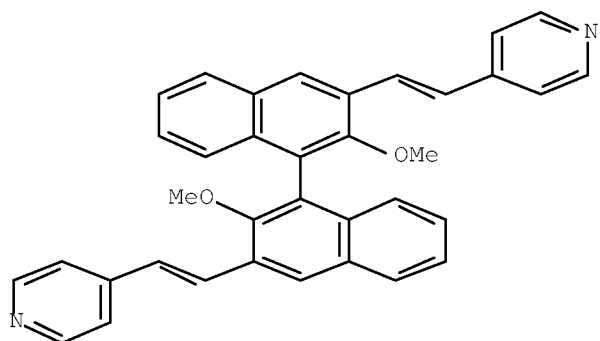


IT 615536-35-1

(reactant for preparation of luminescent silver(I)  
bis(pyridylvinyl)dimethoxybinaphthyl homochiral lamellar network  
complexes built from helical chains)

RN 615536-35-1 HCAPLUS

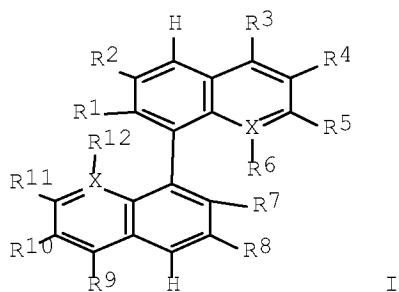
CN Pyridine, 4,4'-[[[(1S)-2,2'-dimethoxy[1,1'-binaphthalene]-3,3'-diyl]di-  
(1E)-2,1-ethenediyl]bis- (9CI) (CA INDEX NAME)



CC 78-7 (Inorganic Chemicals and Reactions)  
 Section cross-reference(s): 73, 75  
 IT 756878-97-4P 756878-98-5P  
 (preparation and crystal and mol. structure and luminescence  
 of homochiral lamellar network built from helical chains)  
 IT 615536-35-1  
 (reactant for preparation of luminescent silver(I)  
 bis(pyridylvinyl)dimethoxybinaphthyl homochiral lamellar network  
 complexes built from helical chains)  
 REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR  
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
 RE FORMAT

L37 ANSWER 15 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2004:451524 HCAPLUS Full-text  
 DOCUMENT NUMBER: 141:30833  
 TITLE: Binaphthalene derivatives for organic  
 electro-luminescent devices  
 INVENTOR(S): Chen, Jian Ping; Li, Xiao-Chang Charles; Suzuki,  
 Koichi; Ueno, Kazunori  
 PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan  
 SOURCE: U.S. Pat. Appl. Publ., 10 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20040106003	A1	20040603	US 2002-307982	20021203
			<--	
US 6872475	B2	20050329		
EP 1426429	A1	20040609	EP 2003-257582	20031202
			<--	
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1504533	A	20040616	CN 2003-10118743	20031202
			<--	
JP 2004186156	A	20040702	JP 2003-403749	20031202
			<--	
JP 3780279	B2	20060531		
PRIORITY APPLN. INFO.:			US 2002-307982	A 20021203
			<--	
OTHER SOURCE(S):		MARPAT 141:30833		
ED Entered STN:		04 Jun 2004		
GI				



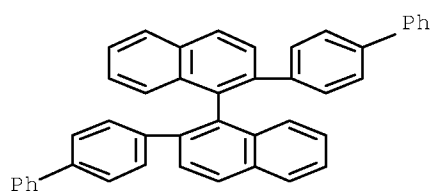
AB The present invention relates to an organic light emitting device (OLED) in which a binaphthalene derivative represented by I (R1-12 = H, alkyl, alkoxy, vinyl, aromatic, heteroarom.; 4 and 4' positions on the naphthalene rings are unsubstituted; X = C, N; when X is N, R6 and R12 are H atoms) is used as the emissive layer and/or one or more of the charge transport layers, or as a host or dopant material for one or more of such layers.

IT 697766-38-4P

(host; preparation of binaphthalene derivs. for organic electro-luminescent devices)

RN 697766-38-4 HCAPLUS

CN 1,1'-Binaphthalene, 2,2'-bis([1,1'-biphenyl]-4-yl)- (CA INDEX NAME)

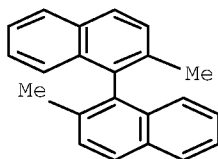


IT 32834-84-7, 2,2'-Dimethyl-1,1'-binaphthyl 74866-28-7  
, 2,2'-Dibromo-1,1'-binaphthyl

(preparation of binaphthalene derivs. for organic electro-luminescent devices)

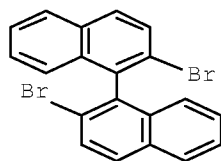
RN 32834-84-7 HCAPLUS

CN 1,1'-Binaphthalene, 2,2'-dimethyl- (CA INDEX NAME)



RN 74866-28-7 HCAPLUS

CN 1,1'-Binaphthalene, 2,2'-dibromo- (CA INDEX NAME)



IC ICM H05B033-14  
 INCL 428690000; 428917000; 313504000; 313506000; 257102000; 257103000  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other  
 Related Properties)  
 Section cross-reference(s): 25, 74  
 IT 697766-38-4P  
 (host; preparation of binaphthalene derivs. for organic  
 electro-luminescent devices)  
 IT 92-66-0, 4-Bromobiphenyl 122-52-1, Triethylphosphite 128-08-5, NBS  
 591-50-4, Iodobenzene 4488-22-6, 2,2'-Diamino-1,1'-binaphthyl  
 5122-94-1, 4-Biphenylboronic acid 32834-84-7,  
 2,2'-Dimethyl-1,1'-binaphthyl 74866-28-7,  
 2,2'-Dibromo-1,1'-binaphthyl  
 (preparation of binaphthalene derivs. for organic electro  
 -luminescent devices)

REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR  
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
 RE FORMAT

L37 ANSWER 16 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2004:451121 HCAPLUS Full-text  
 DOCUMENT NUMBER: 141:14264  
 TITLE: Organic electroluminescent devices with good heat  
 resistance, long service life, and high luminance  
 at low drive voltage  
 INVENTOR(S): Soma, Minoru; Iida, Koichiro; Ogata, Tomoyuki;  
 Sato, Yoshiharu  
 PATENT ASSIGNEE(S): Mitsubishi Chemical Corp., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 47 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 2004158216	A	20040603	JP 2002-320194	20021101
			<--	
PRIORITY APPLN. INFO.:			JP 2002-320194	20021101
			<--	

OTHER SOURCE(S): MARPAT 141:14264  
 ED Entered STN: 04 Jun 2004  
 AB The devices have, between emitting layers and anodes, wet-formed layers  
 containing hole-transporting substances (e.g., aromatic amines,  
 phthalocyanines, porphyrins) of mol. weight <2000 and electron acceptors

10/774,577

represented by Ar1Ar2Ar3B (Ar1-Ar3 = aromatic hydrocarbyl, aromatic heterocycle).

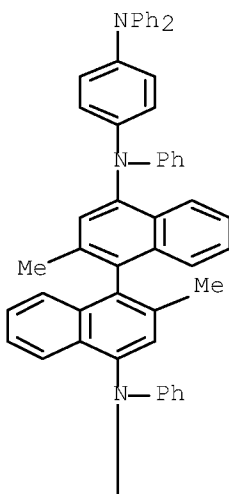
IT 640772-70-9

(hole-injecting layers; long-life organic LED containing low-mol.-weight aromatic amines and arylboranes in hole-injecting layers)

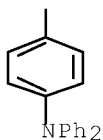
RN 640772-70-9 HCAPLUS

CN [1,1'-Binaphthalene]-4,4'-diamine, N4,N4'-bis[4-(diphenylamino)phenyl]-2,2'-dimethyl-N4,N4'-diphenyl- (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IC ICM H05B033-22

ICS C09K011-06; H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

IT 1109-15-5 640772-70-9

(hole-injecting layers; long-life organic LED containing low-mol.-weight aromatic amines and arylboranes in hole-injecting layers)

L37 ANSWER 17 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:272156 HCAPLUS Full-text

DOCUMENT NUMBER: 140:312148

TITLE: Organic electroluminescent device and electroluminescent display

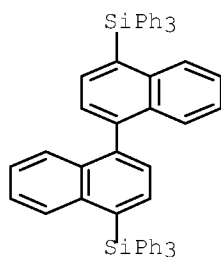
INVENTOR(S): Kita, Hiroshi; Suzurizato, Yoshiyuki; Yamada,

10/774,577

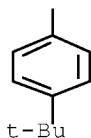
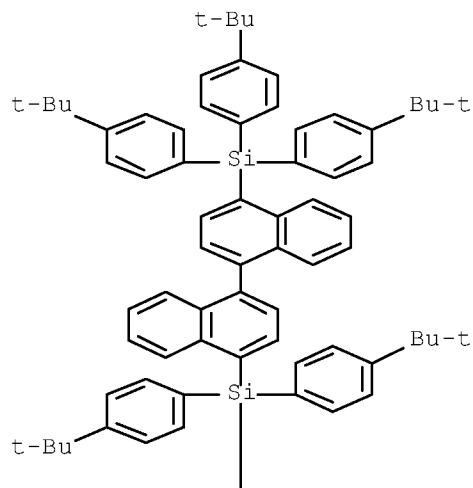
PATENT ASSIGNEE(S): Taketoshi; Karatsu, Takashi; Kitamura, Akihide  
 SOURCE: Konica Minolta Holdings Inc., Japan  
 Jpn. Kokai Tokkyo Koho, 23 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004103463	A	20040402	JP 2002-265416	20020911
			<--	
PRIORITY APPLN. INFO.:			JP 2002-265416	20020911
			<--	

OTHER SOURCE(S): MARPAT 140:312148  
 ED Entered STN: 02 Apr 2004  
 AB The title device contains specific triphenylarylsilane in an electroluminescent layer. The silane compound is used a host compound or an electron transporting compound The title device shows improved electroluminescence and high durability.  
 IT 676553-38-1 676553-44-9  
 (silane compound in organic electroluminescent device)  
 RN 676553-38-1 HCAPLUS  
 CN 1,1'-Binaphthalene, 4,4'-bis(triphenylsilyl)- (CA INDEX NAME)



RN 676553-44-9 HCAPLUS  
 CN 1,1'-Binaphthalene, 4,4'-bis[tris[4-(1,1-dimethylethyl)phenyl]silyl]-  
 (CA INDEX NAME)



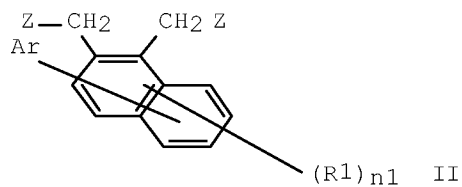
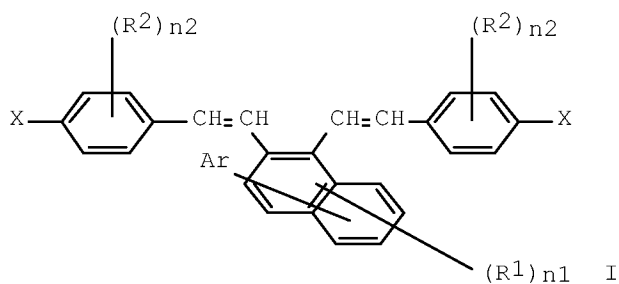
IC ICM H05B033-14  
 ICS C09K011-06; H05B033-22; C07F007-08; C07F007-10  
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other  
 Reprographic Processes)  
 Section cross-reference(s): 29, 73  
 ST org electroluminescent device display aryl silane  
 IT Silanes  
 (aryl; silane compound in organic electroluminescent device)  
 IT Electroluminescent devices  
 (displays; organic electroluminescent device and  
 electroluminescent display)  
 IT Luminescent screens  
 (electroluminescent; organic  
 electroluminescent device and electroluminescent  
 display)  
 IT Electroluminescent devices  
 (organic electroluminescent device and  
 electroluminescent display)  
 IT 676553-36-9 676553-37-0 676553-38-1 676553-39-2  
 676553-40-5 676553-41-6 676553-42-7 676553-43-8  
 676553-44-9  
 (silane compound in organic electroluminescent device)

10/774,577

ACCESSION NUMBER: 2004:249530 HCAPLUS Full-text  
DOCUMENT NUMBER: 140:294502  
TITLE: Aromatic methylenide compounds, their intermediates, their manufacture, and organic electroluminescent devices  
INVENTOR(S): Hashimoto, Mitsuru  
PATENT ASSIGNEE(S): Matsushita Electric Industrial Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 39 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 5  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004091340	A	20040325	JP 2002-251826	20020829
			<--	
US 20040115475	A1	20040617	US 2003-639790	20030812
			<--	
PRIORITY APPLN. INFO.:			JP 2002-236223	A 20020814
			<--	
			JP 2002-251825	A 20020829
			<--	
			JP 2002-251826	A 20020829
			<--	
			JP 2002-251827	A 20020829
			<--	
			JP 2002-251828	A 20020829
			<--	

OTHER SOURCE(S): MARPAT 140:294502  
ED Entered STN: 26 Mar 2004  
GI



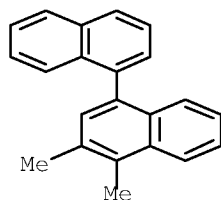
AB The compds. I [X = CH:CR<sub>3</sub>R<sub>4</sub>; R<sub>1</sub>, R<sub>2</sub> = alkyl, alkoxy, halo, CN, NO<sub>2</sub>; R<sub>3</sub>, R<sub>4</sub> = H, (cyclo)alkyl, aromatic group, aromatic heterocyclic group; R<sub>3</sub> ≠ R<sub>4</sub> ≠ H; R<sub>3</sub> ≠ R<sub>4</sub> ≠ alkyl; R<sub>3</sub> ≠ R<sub>4</sub> ≠ cycloalkyl; R<sub>3</sub> and R<sub>4</sub> may form condensed aromatic or aromatic heterocyclic group; Ar = aromatic group, aromatic heterocyclic group; n<sub>1</sub> = 0-5; n<sub>2</sub> = 0-4] are manufactured by treatment of intermediates II [R<sub>1</sub>, Ar, n<sub>1</sub> = same as above; Z = PO(OR)<sub>2</sub>, PA<sub>3</sub><sup>+</sup>, PA<sub>3</sub><sup>+</sup>-base salt; R = alkyl; A = aryl] with 4,4'-OHCC<sub>6</sub>H<sub>4</sub>-n<sub>2</sub>(R<sub>2</sub>n<sub>2</sub>)CH:CR<sub>3</sub>R<sub>4</sub> (R<sub>2</sub>-R<sub>4</sub>, n<sub>2</sub> = same as above), treatment of I (X = CHO; R<sub>1</sub>-R<sub>4</sub>, n<sub>1</sub>-n<sub>4</sub> = same as above) with R<sub>3</sub>R<sub>4</sub>CHZ (R<sub>3</sub>, R<sub>4</sub>, Z = same as above), etc. The intermediates II (R<sub>1</sub>, Ar, Z, n<sub>1</sub> = same as above) are manufactured by halogenation of II (Z = H; R<sub>1</sub>, Ar, n<sub>1</sub> = same as above), followed by treatment with P(OR)<sub>3</sub> (R = same as above) or PA<sub>3</sub> (A = same as above). Organic electroluminescent devices having emitter layers containing the compds. have high luminescence intensity and long service life.

IT 675818-27-6P

(manufacture of **electroluminescent** aromatic methylenide compds.  
for organic **electroluminescent** devices)

RN 675818-27-6 HCAPLUS

CN 1,1'-Binaphthalene, 3,4-dimethyl- (CA INDEX NAME)



IC ICM C07C015-58

ICS C07C001-34; C07C015-24; C07C022-04; C07F009-40; C09K011-06;  
G03G005-06; H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other  
Related Properties)

Section cross-reference(s): 25

IT 5842-54-6P 675818-21-0P 675818-22-1P 675818-27-6P  
675818-28-7P

(manufacture of **electroluminescent** aromatic methylenide compds.  
for organic **electroluminescent** devices)

L37 ANSWER 19 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:203409 HCAPLUS Full-text

DOCUMENT NUMBER: 140:261169

TITLE: Organic light-emitting device using iptycene  
derivatives

INVENTOR(S): Chen, Jian Ping; Okamura, Yoshimasa

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 43 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

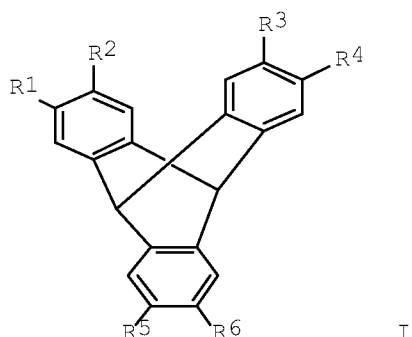
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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10/774,577

US 20040048099	A1	20040311	US 2002-230273	20020829
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CN 1479561	A	20040303	CN 2003-146250	20030704
			<--	
EP 1413617	A1	20040428	EP 2003-255112	20030818
			<--	
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,				
PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2004095554	A	20040325	JP 2003-303405	20030827
			<--	
JP 3762398	B2	20060405		
US 20040253479	A1	20041216	US 2004-883802	20040706
			<--	
US 6962758	B2	20051108		
PRIORITY APPLN. INFO.:			US 2002-230273	A 20020829
			<--	
OTHER SOURCE(S): MARPAT 140:261169				
ED Entered STN: 14 Mar 2004				
GI				

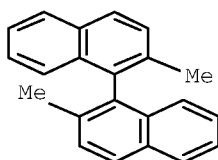


AB Organic light-emitting devices are described in which the emissive layer and/or  $\geq 1$  charge transport layer includes an iptycene derivative described by the general formula I (any or all of R1-6 may be absent; any or all of R1 and R2, R3 and R4, and R5 and R6 may be taken together to form an aryl group; and any or all of R1-6 may represent a charge-transport substituent).

IT 32834-84-7, 2,2'-Dimethyl-1,1'-binaphthyl  
(organic light-emitting devices using iptycene derivs.)

RN 32834-84-7 HCAPLUS

CN 1,1'-Binaphthalene, 2,2'-dimethyl- (CA INDEX NAME)

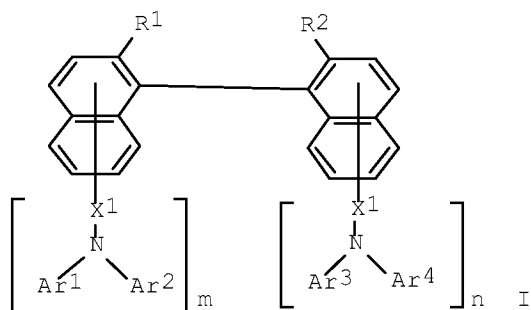


IC ICM H05B033-12  
 INCL 428690000; 428917000; 313504000; 313506000  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other  
 Related Properties)  
 IT 128-08-5, N-Bromosuccinimide 620-93-9 5122-94-1, 4-Biphenylboronic  
 acid 32834-84-7, 2,2'-Dimethyl-1,1'-binaphthyl 52776-05-3  
 144981-85-1 669072-84-8 669072-87-1  
 (organic light-emitting devices using iptycene  
 derivs.)

L37 ANSWER 20 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2004:37424 HCAPLUS Full-text  
 DOCUMENT NUMBER: 140:84411  
 TITLE: Organic electroluminescent devices containing  
 2,2'-substituted binaphthyl derivatives  
 INVENTOR(S): Takeuchi, Masako; Iida, Koichiro; Sato, Yoshiharu  
 PATENT ASSIGNEE(S): Mitsubishi Chemical Corp., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 45 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2004014187	A	20040115	JP 2002-163156	20020604
			<--	
JP 3988539	B2	20071010		
PRIORITY APPLN. INFO.:			JP 2002-163156	20020604
			<--	

OTHER SOURCE(S): MARPAT 140:84411  
 ED Entered STN: 16 Jan 2004  
 GI



AB The devices, showing low threshold voltage and good performance stability at high temperature regions, contain binaphthyl derivs. I [Ar1-Ar4 = 5-6-membered (condensed) aromatic (hetero)cycle; m, n = 0-4; m + n ≥ 1; X1, X2 = single bond, bivalent bridging group; R1, R2 = halo, OH, alkyl(oxy), alkenyl,

10/774,577

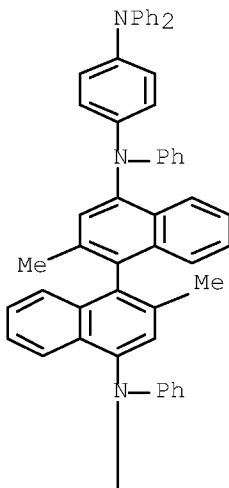
alkoxycarbonyl] in constituent layers. Improved hole injection/transport efficiency with excellent heat resistance are achieved with the binaphthyl derivs.

IT 640772-70-9F

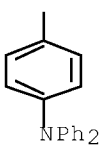
(hole-transporting layers; low-threshold organic LED containing 2,2'-substituted binaphthyl derivs. in hole transport layers)

RN 640772-70-9 HCAPLUS

CN [1,1'-Binaphthalene]-4,4'-diamine, N4,N4'-bis[4-(diphenylamino)phenyl]-2,2'-dimethyl-N4,N4'-diphenyl- (CA INDEX NAME)



PAGE 1-A



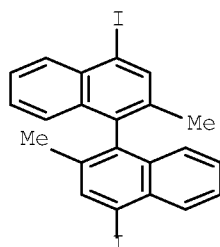
PAGE 2-A

IT 640772-71-0

(low-threshold organic LED containing 2,2'-substituted binaphthyl derivs. in hole transport layers)

RN 640772-71-0 HCAPLUS

CN 1,1'-Binaphthalene, 4,4'-diiodo-2,2'-dimethyl- (CA INDEX NAME)



IC ICM H05B033-22  
ICS C09K011-06; H05B033-14; C07C211-57  
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other  
Related Properties)  
Section cross-reference(s): 25  
IT 640772-70-9P  
(hole-transporting layers; low-threshold organic LED containing  
2,2'-substituted binaphthyl derivs. in hole transport layers)  
IT 19606-98-5 640772-71-0  
(low-threshold organic LED containing 2,2'-substituted  
binaphthyl derivs. in hole transport layers)

L37 ANSWER 21 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:32979 HCAPLUS Full-text

DOCUMENT NUMBER: 140:102115

TITLE: Organic electroluminescent devices and displays  
having high luminescence intensity and long  
service life

INVENTOR(S): Yamada, Taketoshi; Kita, Hiroshi

PATENT ASSIGNEE(S): Konica Minolta Holdings Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 35 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

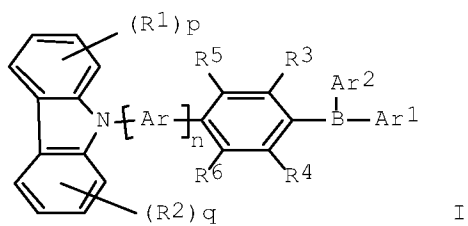
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2004014440	A	20040115	JP 2002-169802	20020611
			<--	
JP 3994799	B2	20071024		
PRIORITY APPLN. INFO.:			JP 2002-169802	20020611
			<--	

OTHER SOURCE(S): MARPAT 140:102115

ED Entered STN: 15 Jan 2004

GI



AB The devices contain N-carbazolyl group-containing triarylboranes I (R1, R2 = substituent; R3-R6 = H, substituent; R3 and/or R4 are substituents; Ar = arylene; Ar1, Ar2 = aryl; n = 0-8; p = 1-4; q = 1-4) in electron-transport layers or emitter layers.

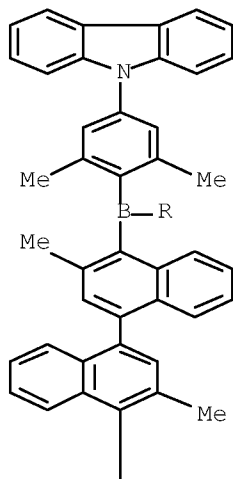
IT 643758-15-0

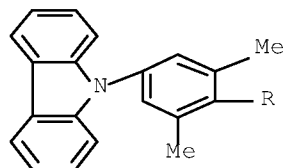
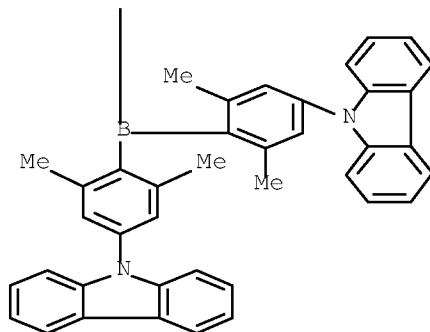
(organic electroluminescent devices and displays containing N-carbazolyl group-containing triarylboranes)

RN 643758-15-0 HCAPLUS

CN 9H-Carbazole, 9,9',9'',9'''-[(3,3'-dimethyl[1,1'-binaphthalene]-4,4'-diyl)bis[boryldynebis(3,5-dimethyl-4,1-phenylene)]]tetrakis- (9CI)  
(CA INDEX NAME)

PAGE 1-A





IC ICM H05B033-22  
ICS C09K011-06; H05B033-14  
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)  
Section cross-reference(s): 73  
IT 643758-09-2 643758-10-5 643758-11-6 643758-12-7 643758-13-8  
643758-14-9 ~~643758-15-0~~ 643758-16-1 643758-17-2  
643758-18-3 643758-19-4 643758-20-7 643758-21-8 643758-22-9  
643758-23-0  
(organic electroluminescent devices and displays containing  
N-carbazolyl group-containing triarylboranes)

L37 ANSWER 22 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 2003:952839 HCAPLUS Full-text  
DOCUMENT NUMBER: 140:414563  
TITLE: Anthracene-containing binaphthol chromophores for  
light-emitting diode (LED) fabrication  
AUTHOR(S): Benmansour, Hadjar; Shioya, Takeshi; Sato,  
Yoshiharu; Bazan, Guillermo C.  
CORPORATE SOURCE: Departments of Chemistry and Materials, Institute  
for Polymers and Organic Solids, Mitsubishi  
Chemical Center for Advanced Materials, University  
of California, Santa Barbara, CA, 93106, USA  
SOURCE: Advanced Functional Materials (2003),  
13(11), 883-886  
CODEN: AFMDC6; ISSN: 1616-301X  
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
ED Entered STN: 08 Dec 2003

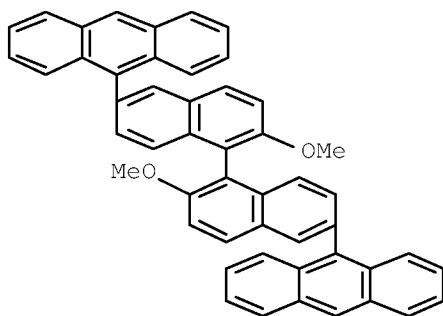
AB Non-crystalline anthracene-containing binaphthol chromophores were synthesized, characterized, and used in the fabrication of organic light-emitting diodes (OLEDs). Specifically, the target mols. were 2,2'-dihexyloxy-1,1'-binaphthol-6,6'-bisanthracene (BA1) and 2,2'-dimethoxy-1,1'-binaphthol-6,6'-bisanthracene (BA2). Mols. BA1 and BA2 provide amorphous solids, as determined by their glass-transition temperature (T<sub>g</sub>) measured by differential scanning calorimetry (DSC). Efficient multilayer OLEDs containing BA1 and BA2 were fabricated by evaporation techniques. Differences in the electroluminescence frequencies of these devices suggests that the degree of alkoxide substitution controls the mobility within the binaphthol material, and therefore the recombination region in the device. Compound BA2 can also be used to dope CBP ((4,4'-bis(carbazol-9-yl)biphenyl)) in the fabrication of highly efficient OLEDs.

IT 688810-47-1F

(preparation of anthracene-containing binaphthol chromophores for LED fabrication)

RN 688810-47-1 HCAPLUS

CN Anthracene, 9,9'-(2,2'-dimethoxy[1,1'-binaphthalene]-6,6'-diyl)bis- (9CI) (CA INDEX NAME)

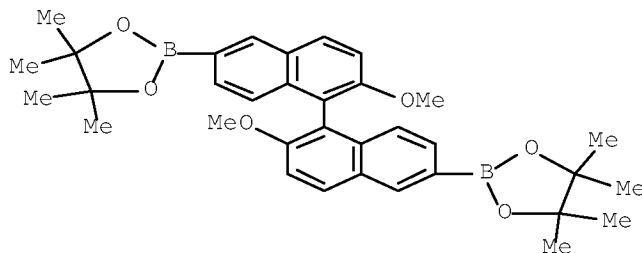


IT 688810-45-9F

(preparation of anthracene-containing binaphthol chromophores for LED fabrication)

RN 688810-45-9 HCAPLUS

CN 1,3,2-Dioxaborolane, 2,2'-(2,2'-dimethoxy[1,1'-binaphthalene]-6,6'-diyl)bis[4,4,5,5-tetramethyl- (9CI) (CA INDEX NAME)



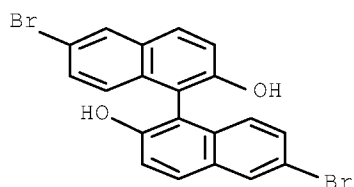
IT 13185-00-7, 6,6'-Dibromo-2,2'-dihydroxy-1,1'-binaphthyl

(preparation of anthracene-containing binaphthol chromophores for

LED fabrication)

RN 13185-00-7 HCAPLUS

CN [1,1'-Binaphthalene]-2,2'-diol, 6,6'-dibromo- (CA INDEX NAME)



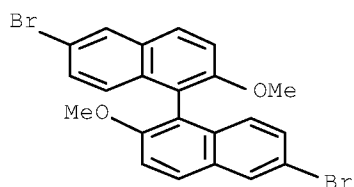
IT 74866-27-6P 191787-87-8P

(preparation of anthracene-containing binaphthol chromophores for

LED fabrication)

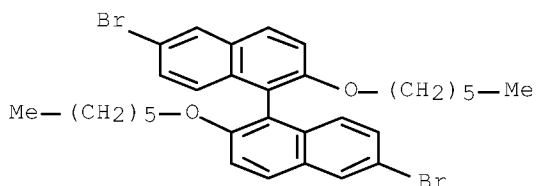
RN 74866-27-6 HCAPLUS

CN 1,1'-Binaphthalene, 6,6'-dibromo-2,2'-dimethoxy- (CA INDEX NAME)



RN 191787-87-8 HCAPLUS

CN 1,1'-Binaphthalene, 6,6'-dibromo-2,2'-bis(hexyloxy)- (CA INDEX NAME)

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other  
Related Properties)

Section cross-reference(s): 25

IT 688810-46-0P 688810-47-1P

(preparation of anthracene-containing binaphthol chromophores for

LED fabrication)

IT 688810-44-8P 688810-45-9P

(preparation of anthracene-containing binaphthol chromophores for

LED fabrication)

IT 13185-00-7, 6,6'-Dibromo-2,2'-dihydroxy-1,1'-binaphthyl

(preparation of anthracene-containing binaphthol chromophores for

LED fabrication)

IT 74866-27-6P 191787-87-8P

10/774,577

(preparation of anthracene-containing binaphthol chromophores for  
LED fabrication)

REFERENCE COUNT: 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR  
THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
RE FORMAT

L37 ANSWER 23 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:656269 HCAPLUS Full-text

DOCUMENT NUMBER: 139:204831

TITLE: Organic electroluminescent devices with  
light-emitting layer containing a phosphorescent  
compound and a host compound containing a boron  
atom in the molecule, and a display employing the  
organic electroluminescent devices

INVENTOR(S): Matsuura, Mitsunori; Yamada, Taketoshi; Kinoshita,  
Motoi; Kita, Hiroshi

PATENT ASSIGNEE(S): Konica Corporation, Japan

SOURCE: U.S. Pat. Appl. Publ., 26 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
US 20030157366	A1	20030821	US 2002-281572	20021028
			<--	
US 6835473	B2	20041228		
JP 2003234192	A	20030822	JP 2002-334907	20021119
			<--	
PRIORITY APPLN. INFO.:			JP 2001-372601	A 20011206
			<--	

OTHER SOURCE(S): MARPAT 139:204831

ED Entered STN: 22 Aug 2003

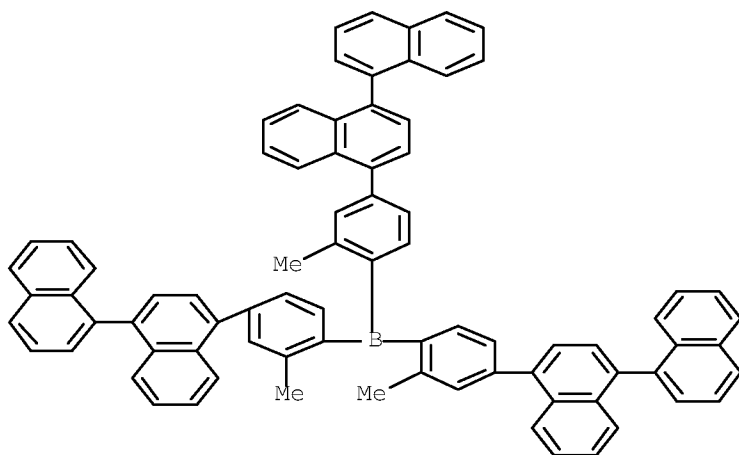
AB Organic electroluminescent devices and a display employing the organic  
electroluminescent devices are described which comprise a light-emitting layer  
containing a phosphorescent compound and a host compound containing a boron  
atom in the mol.

IT 492446-94-3

(host in light-emitting layer; organic  
electroluminescent devices with light-  
emitting layer containing phosphorescent compound and host compound  
containing boron atom in mol., and display employing  
electroluminescent devices)

RN 492446-94-3 HCAPLUS

CN Borane, tris(4-[1,1'-binaphthalen]-4-yl-2-methylphenyl)- (CA INDEX  
NAME)



IC ICM H05B033-14  
 INCL 428690000; 428917000; 313504000; 257102000; 257103000  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other  
 Related Properties)  
 Section cross-reference(s): 22, 74, 76  
 IT 38186-32-2 213621-16-0 300823-56-7 300823-57-8 301300-11-8  
 332350-52-4 332350-53-5 492434-53-4 ~~492446-94-3~~  
 492446-97-6 492447-00-4 583040-29-3 583040-30-6 583040-31-7  
 583040-32-8 583040-33-9 583040-34-0 583040-35-1 583040-36-2  
 583040-37-3 583040-38-4 583040-39-5 583040-40-8 583040-41-9  
 583040-42-0  
 (host in light-emitting layer; organic  
 electroluminescent devices with light-  
 emitting layer containing phosphorescent compound and host compound  
 containing boron atom in mol., and display employing  
 electroluminescent devices)  
 REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR  
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
 RE FORMAT

L37 ANSWER 24 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2003:623267 HCAPLUS Full-text  
 DOCUMENT NUMBER: 140:199449  
 TITLE: Directed assembly of chiral organometallic squares  
 that exhibit dual luminescence  
 AUTHOR(S): Lee, Suk Joong; Luman, Charles R.; Castellano,  
 Felix N.; Lin, Wenbin  
 CORPORATE SOURCE: Department of Chemistry, CB#3290, University of  
 North Carolina, Chapel Hill, NC, 27599, USA  
 SOURCE: Chemical Communications (Cambridge, United  
 Kingdom) (2003), (17), 2124-2125  
 CODEN: CHCOFS; ISSN: 1359-7345  
 PUBLISHER: Royal Society of Chemistry  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 140:199449  
 ED Entered STN: 14 Aug 2003  
 AB Chiral mol. squares based on the Pt-alkynyl linkage were synthesized via  
 stepwise directed assembly, and exhibit interesting dual luminescence at room  
 temperature which is potentially exploitable for chiral sensory applications.

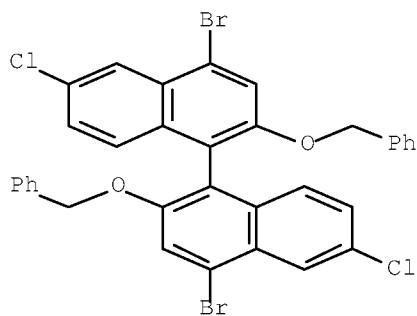
10/774,577

IT 431043-67-3 431043-69-5 479024-79-8  
479024-84-5 663610-89-7 663610-96-6

(directed assembly of chiral platinum-alkynyl organometallic  
squares that exhibit dual luminescence)

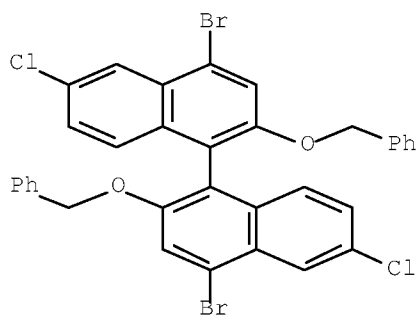
RN 431043-67-3 HCAPLUS

CN 1,1'-Binaphthalene, 4,4'-dibromo-6,6'-dichloro-2,2'-bis(phenylmethoxy)-  
, (1R)- (9CI) (CA INDEX NAME)



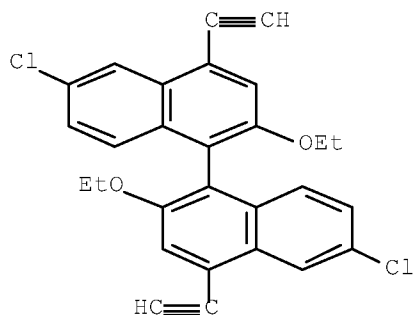
RN 431043-69-5 HCAPLUS

CN 1,1'-Binaphthalene, 4,4'-dibromo-6,6'-dichloro-2,2'-bis(phenylmethoxy)-  
, (1S)- (9CI) (CA INDEX NAME)



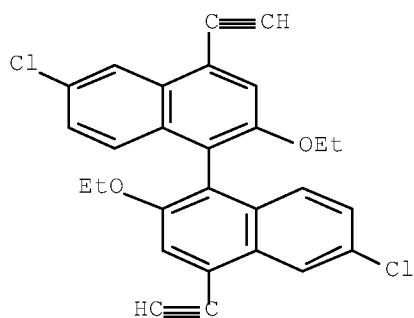
RN 479024-79-8 HCAPLUS

CN 1,1'-Binaphthalene, 6,6'-dichloro-2,2'-diethoxy-4,4'-diethynyl-, (1R)-  
(9CI) (CA INDEX NAME)



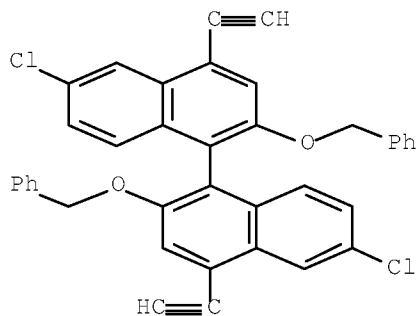
RN 479024-84-5 HCAPLUS

CN 1,1'-Binaphthalene, 6,6'-dichloro-2,2'-diethoxy-4,4'-diethynyl-, (1S)-  
(9CI) (CA INDEX NAME)



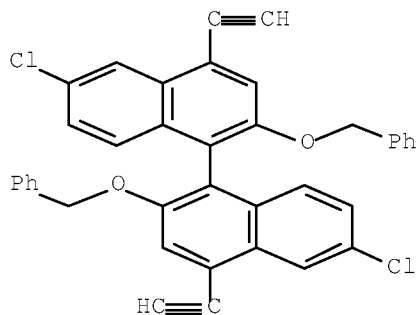
RN 663610-89-7 HCAPLUS

CN 1,1'-Binaphthalene, 6,6'-dichloro-4,4'-diethynyl-2,2'-  
bis(phenylmethoxy)-, (1R)- (9CI) (CA INDEX NAME)



RN 663610-96-6 HCAPLUS

CN 1,1'-Binaphthalene, 6,6'-dichloro-4,4'-diethynyl-2,2'-  
bis(phenylmethoxy)-, (1S)- (9CI) (CA INDEX NAME)

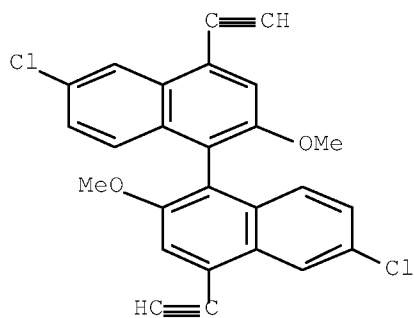


IT 479024-80-1P 479024-85-6P 663599-19-7P  
 663599-20-0P 663599-21-1P 663599-22-2P  
 663599-23-3P 663599-24-4P 663610-88-6P  
 663610-90-0P 663610-91-1P 663610-95-5P  
 663610-97-7P 663610-98-8P 663610-99-9P  
 663611-00-5P 663611-01-6P 663611-02-7P  
 663611-03-8P 663611-04-9P

(directed assembly of chiral platinum-alkynyl organometallic squares that exhibit dual luminescence)

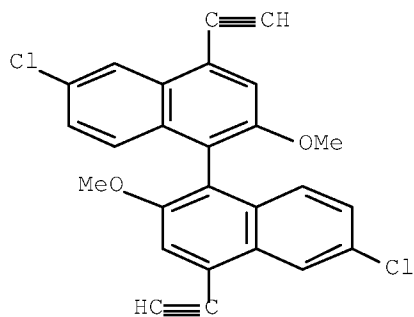
RN 479024-80-1 HCAPLUS

CN 1,1'-Binaphthalene, 6,6'-dichloro-4,4'-diethynyl-2,2'-dimethoxy-,  
 (1R)- (9CI) (CA INDEX NAME)



RN 479024-85-6 HCAPLUS

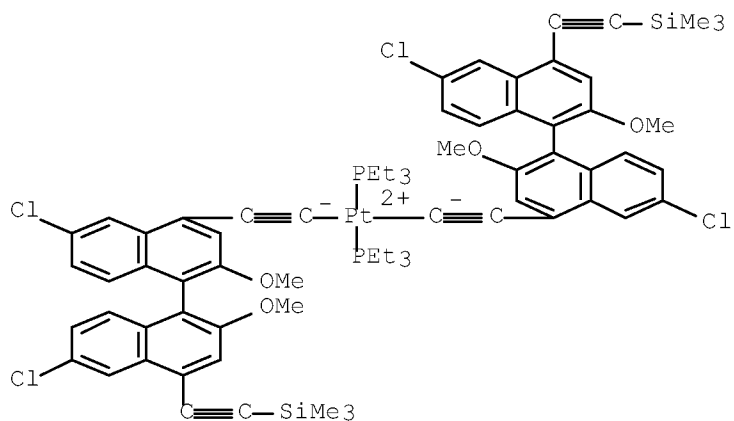
CN 1,1'-Binaphthalene, 6,6'-dichloro-4,4'-diethynyl-2,2'-dimethoxy-,  
 (1S)- (9CI) (CA INDEX NAME)



RN 663599-19-7 HCAPLUS

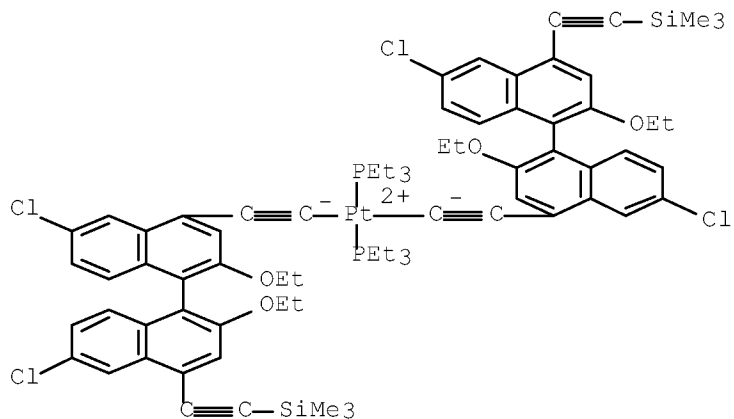
CN Platinum, bis[[ (1R)-6,6'-dichloro-2,2'-dimethoxy-4'-  
 [(trimethylsilyl)ethynyl][1,1'-binaphthalen]-4-  
 yl]ethynyl]bis(triethylphosphine)-, (SP-4-2)- (9CI) (CA INDEX NAME)

10/774,577



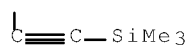
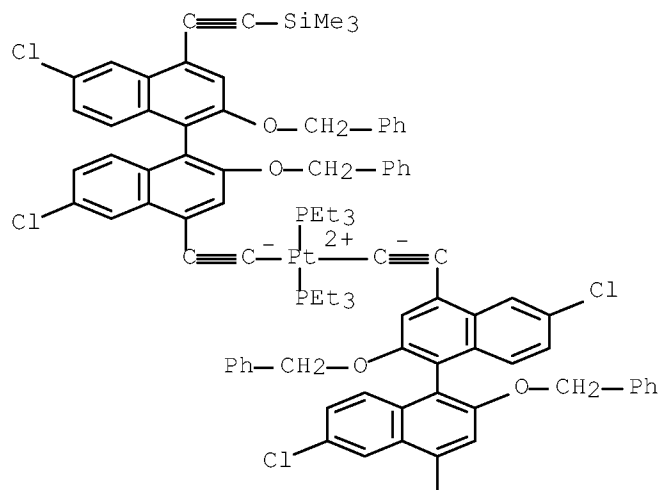
RN 663599-20-0 HCAPLUS

CN Platinum, bis[[ (1R)-6,6'-dichloro-2,2'-diethoxy-4'-  
[(trimethylsilyl)ethynyl][1,1'-binaphthalen]-4-  
yl]ethynyl]bis(triethylphosphine)-, (SP-4-2)- (9CI) (CA INDEX NAME)

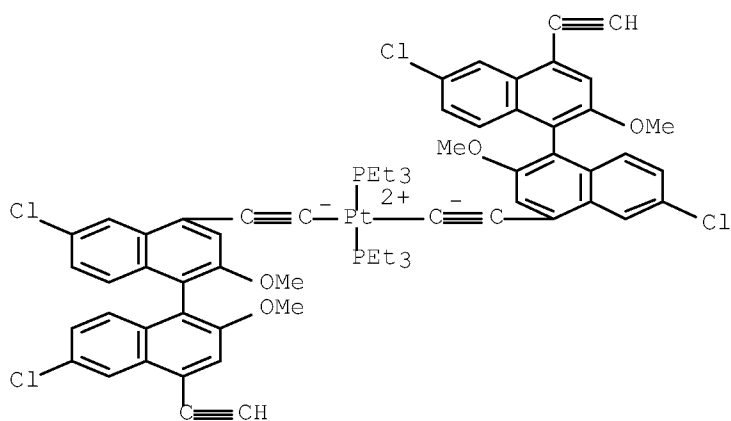


RN 663599-21-1 HCAPLUS

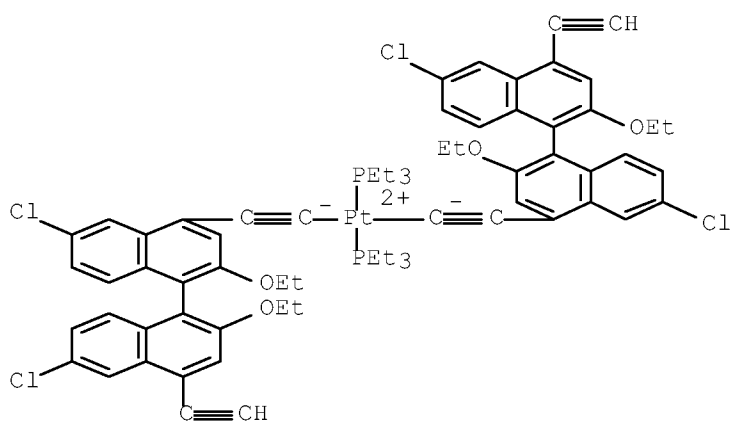
CN Platinum, bis[[ (1R)-6,6'-dichloro-2,2'-bis(phenylmethoxy)-4'-  
[(trimethylsilyl)ethynyl][1,1'-binaphthalen]-4-  
yl]ethynyl]bis(triethylphosphine)-, (SP-4-2)- (9CI) (CA INDEX NAME)



RN 663599-22-2 HCAPLUS  
 CN Platinum, bis[[ (1R)-6,6'-dichloro-4'-ethynyl-2,2'-dimethoxy[1,1'-binaphthalen]-4-yl]ethynyl]bis(triethylphosphine)-, (SP-4-2)- (9CI)  
 (CA INDEX NAME)

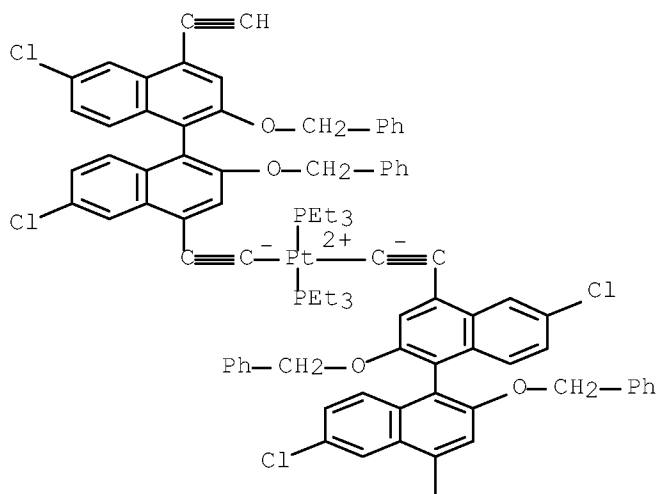


RN 663599-23-3 HCAPLUS  
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 (CA INDEX NAME)



RN 663599-24-4 HCAPLUS  
 CN Platinum, bis[[ (1R)-6,6'-dichloro-4'-ethynyl-2,2'-bis(phenylmethoxy) [1,1'-binaphthalen]-4-yl]ethynyl]bis(triethylphosphine)-, (SP-4-2)- (9CI) (CA INDEX NAME)

PAGE 1-A



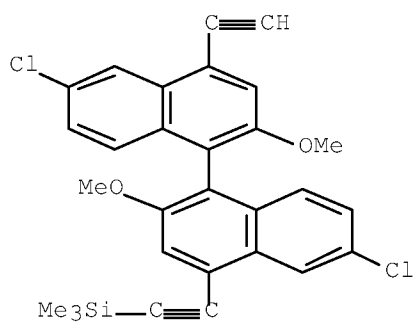
PAGE 2-A



RN 663610-88-6 HCAPLUS  
 CN Silane, [[ (1R)-6,6'-dichloro-4'-ethynyl-2,2'-dimethoxy[1,1'-

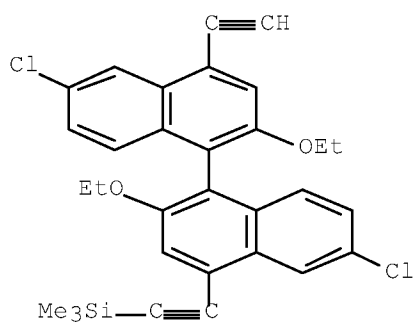
10/774,577

binaphthalen]-4-yl]ethynyl]trimethyl- (9CI) (CA INDEX NAME)



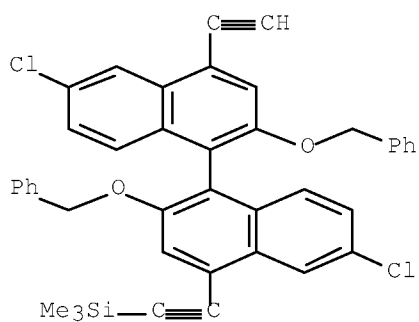
RN 663610-90-0 HCAPLUS

CN Silane, [[(1R)-6,6'-dichloro-2,2'-diethoxy-4'-ethynyl[1,1'-binaphthalen]-4-yl]ethynyl]trimethyl- (9CI) (CA INDEX NAME)



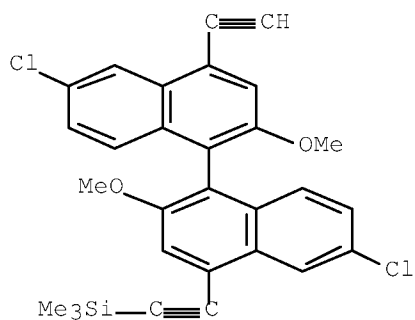
RN 663610-91-1 HCAPLUS

CN Silane, [[(1R)-6,6'-dichloro-4'-ethynyl-2,2'-bis(phenylmethoxy)[1,1'-binaphthalen]-4-yl]ethynyl]trimethyl- (9CI) (CA INDEX NAME)



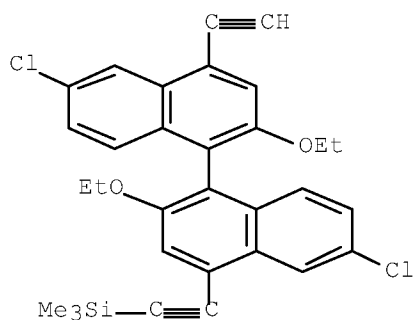
RN 663610-95-5 HCAPLUS

CN Silane, [[(1S)-6,6'-dichloro-4'-ethynyl-2,2'-dimethoxy[1,1'-binaphthalen]-4-yl]ethynyl]trimethyl- (9CI) (CA INDEX NAME)



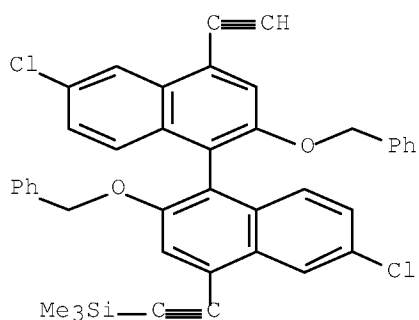
RN 663610-97-7 HCAPLUS

CN Silane, [[(1S)-6,6'-dichloro-2,2'-diethoxy-4'-ethynyl[1,1'-binaphthalen]-4-yl]ethynyl]trimethyl- (9CI) (CA INDEX NAME)



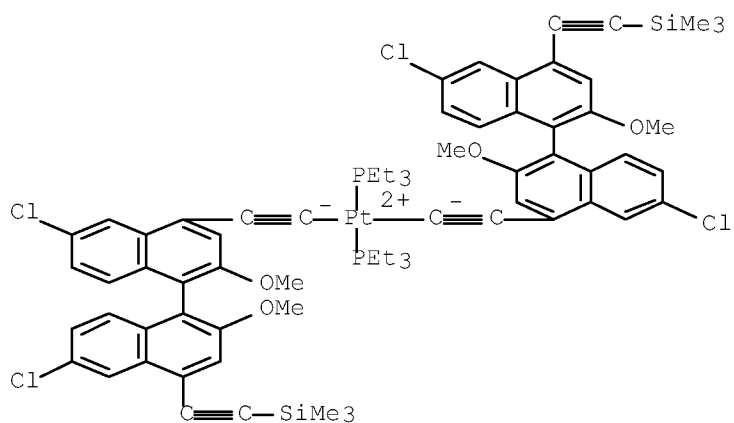
RN 663610-98-8 HCAPLUS

CN Silane, [[(1S)-6,6'-dichloro-4'-ethynyl-2,2'-bis(phenylmethoxy)[1,1'-binaphthalen]-4-yl]ethynyl]trimethyl- (9CI) (CA INDEX NAME)



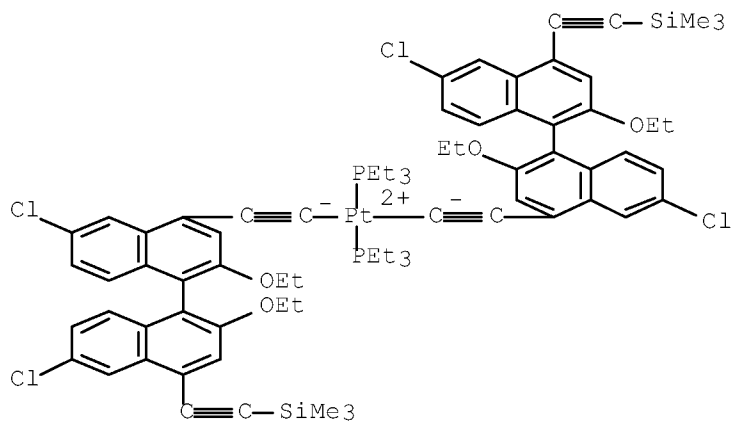
RN 663610-99-9 HCAPLUS

CN Platinum, bis[[[(1S)-6,6'-dichloro-2,2'-dimethoxy-4'-[(trimethylsilyl)ethynyl]-[1,1'-binaphthalen]-4-yl]ethynyl]bis(triethylphosphine)-, (SP-4-2)- (9CI) (CA INDEX NAME)



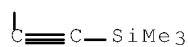
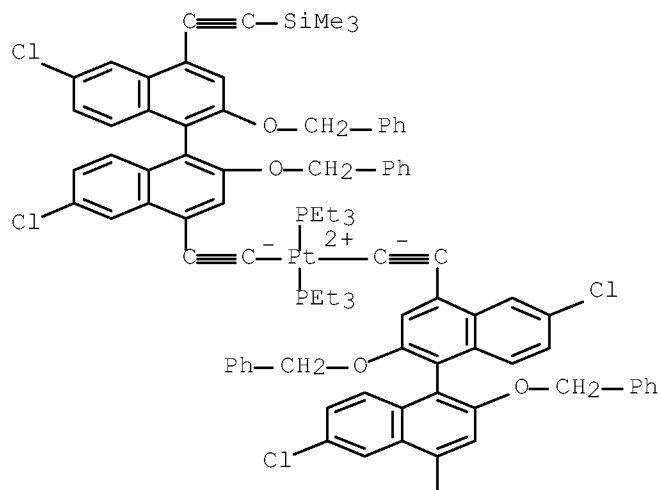
RN 663611-00-5 HCAPLUS

CN Platinum, bis[[ (1S)-6,6'-dichloro-2,2'-diethoxy-4'-  
[(trimethylsilyl)ethynyl]-[1,1'-binaphthalen]-4-  
yl]ethynyl]bis(triethylphosphine)-, (SP-4-2)- (9CI) (CA INDEX NAME)

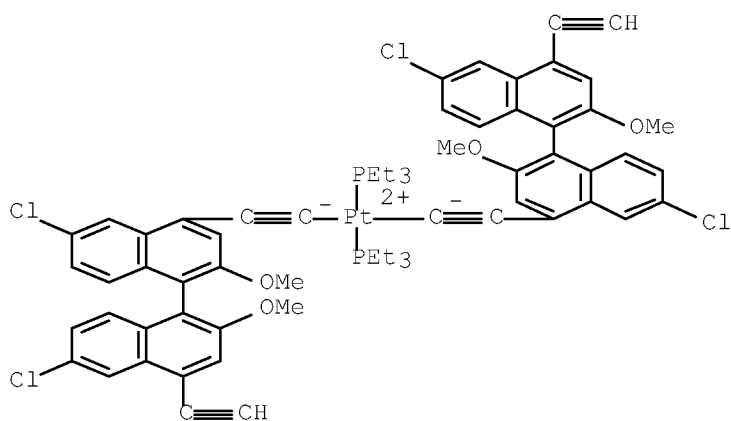


RN 663611-01-6 HCAPLUS

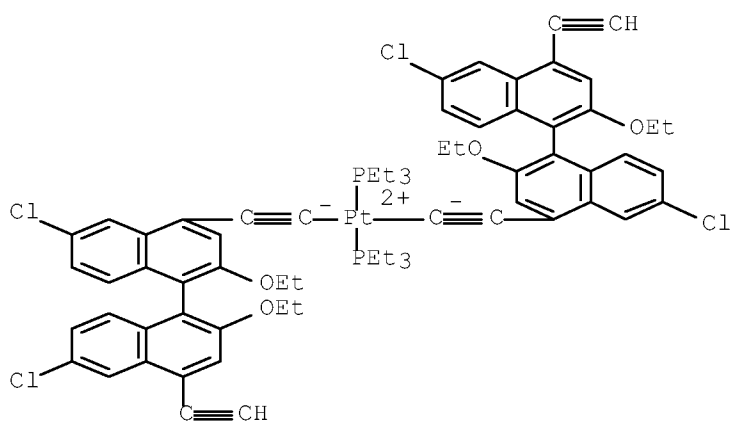
CN Platinum, bis[[ (1S)-6,6'-dichloro-2,2'-bis(phenylmethoxy)-4'-  
[(trimethylsilyl)ethynyl]-[1,1'-binaphthalen]-4-  
yl]ethynyl]bis(triethylphosphine)-, (SP-4-2)- (9CI) (CA INDEX NAME)



RN 663611-02-7 HCAPLUS  
 CN Platinum, bis[[ (1S)-6,6'-dichloro-4'-ethynyl-2,2'-dimethoxy[1,1'-binaphthalen]-4-yl]ethynyl]bis(triethylphosphine)-, (SP-4-2)- (9CI)  
 (CA INDEX NAME)

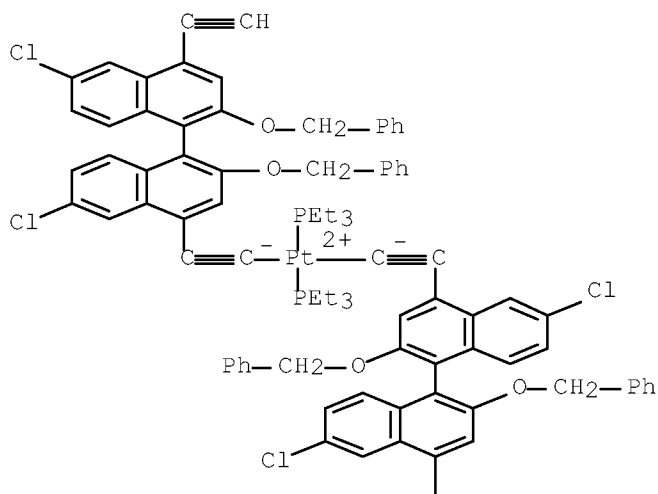


RN 663611-03-8 HCAPLUS  
 CN Platinum, bis[[ (1S)-6,6'-dichloro-2,2'-diethoxy-4'-ethynyl[1,1'-binaphthalen]-4-yl]ethynyl]bis(triethylphosphine)-, (SP-4-2)- (9CI)  
 (CA INDEX NAME)



RN 663611-04-9 HCAPLUS  
 CN Platinum, bis[[ (1S)-6,6'-dichloro-4'-ethynyl-2,2'-bis(phenylmethoxy)-  
 [1,1'-binaphthalen]-4-yl]ethynyl]bis(triethylphosphine)-, (SP-4-2)-  
 (9CI) (CA INDEX NAME)

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CC 29-13 (Organometallic and Organometalloidal Compounds)  
 Section cross-reference(s): 73

IT 1066-54-2, Trimethylsilylacetylene 2857-97-8, Bromotrimethylsilane  
 15692-07-6 431043-67-3 431043-69-5  
 479024-79-8 479024-84-5 663610-89-7  
 663610-96-6

(directed assembly of chiral platinum-alkynyl organometallic  
 squares that exhibit dual luminescence)

IT 479024-80-1P 479024-85-6P 663599-19-7P  
 663599-20-0P 663599-21-1P 663599-22-2P  
 663599-23-3P 663599-24-4P 663610-88-6P  
 663610-90-0P 663610-91-1P 663610-95-5P  
 663610-97-7P 663610-98-8P 663610-99-9P  
 663611-00-5P 663611-01-6P 663611-02-7P  
 663611-03-8P 663611-04-9P

(directed assembly of chiral platinum-alkynyl organometallic  
 squares that exhibit dual luminescence)

REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR  
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
 RE FORMAT

L37 ANSWER 25 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:116880 HCAPLUS Full-text

DOCUMENT NUMBER: 138:178005

TITLE: Aromatic heterocyclic derivatives and organic  
 electroluminescent device using them

INVENTOR(S): Matsuura, Mitsunobu; Yamada, Taketoshi; Kita,  
 Hiroshi

PATENT ASSIGNEE(S): Konica Co., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 38 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

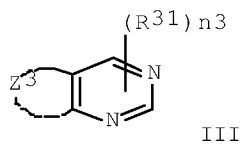
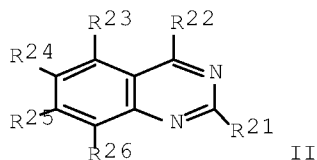
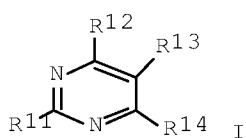
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2003045662	A	20030214	JP 2001-233461	20010801
			<--	
PRIORITY APPLN. INFO.:			JP 2001-233461	20010801
			<--	

OTHER SOURCE(S): MARPAT 138:178005

ED Entered STN: 14 Feb 2003

GI



AB The invention relates to an organic electroluminescent device comprising a  
 pair of electrodes sandwiching  $\geq 1$  layer(s) containing  $\geq 1$  of I, II, or III  
 (R11-14 = H or monovalent substituent;  $\geq 1$  of R11-14 = aromatic hydrocarbonyl;

10/774,577

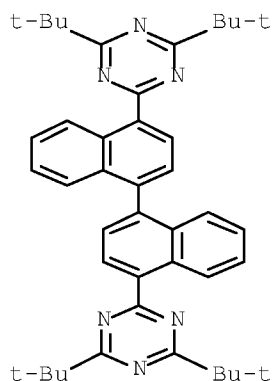
R21-26 = H or monovalent substituent; R31 = H or monovalent substituent; n3 = 0 - 2; Z3 = 5-membered ring moiety).

IT 497097-41-3

(novel aromatic heterocyclic derivs. for organic electroluminescent device)

RN 497097-41-3 HCAPLUS

CN 1,3,5-Triazine, 2,2'-[1,1'-binaphthalene]-4,4'-diylbis[4,6-bis(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-22

ICS C09K011-06; G09F009-30; H05B033-12; H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 28

IT 4733-39-5 19205-19-7 142289-08-5 144810-07-1 405171-87-1  
 405173-85-5 497097-14-0 497097-15-1 497097-17-3 497097-19-5  
 497097-21-9 497097-23-1 497097-26-4 497097-28-6 497097-30-0  
 497097-32-2 497097-34-4 497097-36-6 497097-38-8 497097-40-2  
 497097-41-3 497097-42-4 497097-43-5 497097-44-6  
 497097-45-7 497097-46-8

(novel aromatic heterocyclic derivs. for organic electroluminescent device)

L37 ANSWER 26 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:75528 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 138:144800

TITLE: Organic electroluminescent device and display

INVENTOR(S): Matsuura, Mitsunobu; Yamada, Taketoshi; Kinoshita, Motoshi; Kita, Hiroshi; Shirota, Yasuhiko

PATENT ASSIGNEE(S): Konica Co., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 34 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

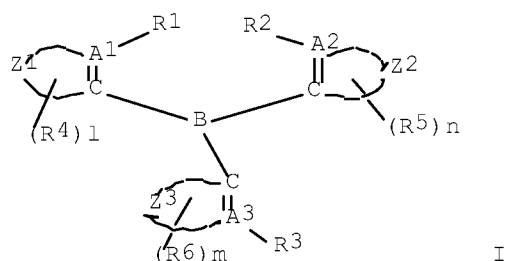
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 2003031367	A	20030131	JP 2001-211297	20010711
			<--	
PRIORITY APPLN. INFO.:			JP 2001-211297	20010711

OTHER SOURCE(S): MARPAT 138:144800  
 ED Entered STN: 31 Jan 2003  
 GI



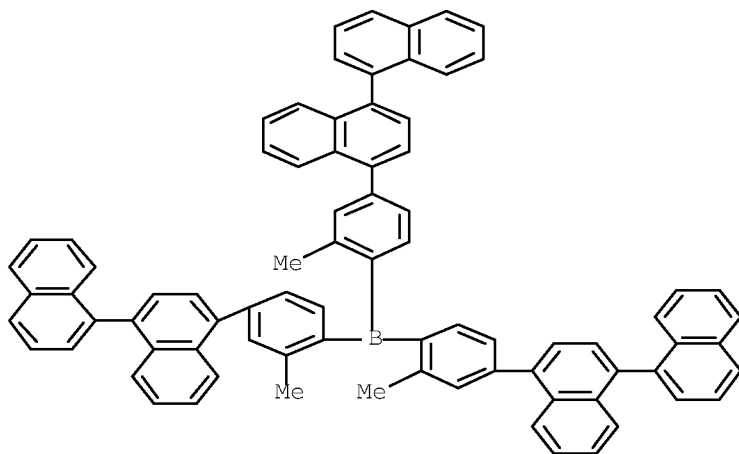
AB The invention refers to a organic electroluminescent device comprising borane compound I [A1-3 = C or N; Z 1-3 = atoms necessary to form an aromatic ring; R1-3 = alkyl, alkyloxy, aralkyloxy or halo; R4-6 = H, univalent substituent; 1, m, n = 0 - 7] in the organic layer.

IT 492446-94-3

(organic electroluminescent device and display using triaryl borane)

RN 492446-94-3 HCAPLUS

CN Borane, tris(4-[1,1'-binaphthalen]-4-yl-2-methylphenyl)- (CA INDEX NAME)



IC ICM H05B033-14

ICS C09K011-06; G09F009-30; H05B033-12; H05B033-22

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

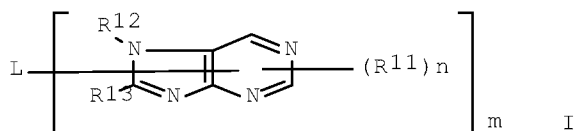
IT	492446-89-6	492446-91-0	492446-92-1	492446-93-2
	<del>492446-94-3</del>	492446-95-4	492446-97-6	492446-98-7
	492446-99-8	492447-00-4	492447-01-5	

(organic electroluminescent device and display using triaryl borane)

L37 ANSWER 27 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2002:900820 HCAPLUS Full-text  
 DOCUMENT NUMBER: 137:390864  
 TITLE: Electroluminescent devices with good storage stability and brightness, and compounds having multiple purine structures for them  
 INVENTOR(S): Kimura, Keizo  
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 44 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002338579	A	20021127	JP 2001-325594	20011023
			<--	
US 20030072965	A1	20030417	US 2002-97607	20020315
			<--	
US 6780529	B2	20040824		
PRIORITY APPLN. INFO.:			JP 2001-76704	A 20010316
			<--	
			JP 2001-325594	A 20011023
			<--	

OTHER SOURCE(S): MARPAT 137:390864  
 ED Entered STN: 27 Nov 2002  
 GI



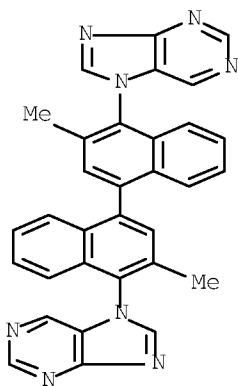
AB The device contains purine-based compds. I (R11 = substituent; R12 = H, aliphatic hydrocarbyl, aryl, hetero ring group; R13 = H, substituent; L = single bond, linking group; n = 0-2; m ≥ 2) in light-emitting layers.

IT 476169-83-2

(electroluminescent devices with good storage stability and brightness containing hetero compds. having multiple purine structures)

RN 476169-83-2 HCAPLUS

CN 7H-Purine, 7,7'-(3,3'-dimethyl[1,1'-binaphthalene]-4,4'-diyl)bis-(9CI) (CA INDEX NAME)



IC ICM C07D519-00  
ICS C09K011-06; H05B033-14; H05B033-22  
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other  
Related Properties)  
Section cross-reference(s): 28  
IT 476169-79-6 476169-80-9 476169-81-0 476169-82-1  
~~476169-83-2~~ 476169-84-3 476169-85-4 476169-86-5  
476169-87-6 476169-88-7 476169-89-8 476169-90-1  
(electroluminescent devices with good storage stability  
and brightness containing hetero compds. having multiple purine  
structures)

L37 ANSWER 28 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 2002:886591 HCAPLUS Full-text  
DOCUMENT NUMBER: 137:377259  
TITLE: Organic electroluminescence component with  
benzo[4,5]indeno[1,2,3-cd]indeno[1,2,3-lm]perylene  
derivative  
INVENTOR(S): Ishida, Tsutomu; Shimamura, Takehiko; Tanabe,  
Yoshimitsu; Totani, Yoshiyuki; Nakatsuka,  
Masakatsu  
PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 67 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 2002334784	A	20021122	JP 2001-136794	20010508
			<--	
PRIORITY APPLN. INFO.:			JP 2001-136794	20010508
			<--	

OTHER SOURCE(S): MARPAT 137:377259

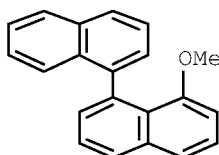
ED Entered STN: 22 Nov 2002

AB The invention refers to an organic electroluminescent device comprising at  
least one layer with at least one benzo[4,5]indeno[1,2,3- cd]indeno[1,2,3-  
lm]perylene derivative

IT ~~146746-39-6P~~  
(organic electroluminescence component with

10/774,577

benzo[4,5]indeno[1,2,3-cd]indeno[1,2,3-lm]perylene derivative)  
 RN 146746-39-6 HCAPLUS  
 CN 1,1'-Binaphthalene, 8-methoxy- (CA INDEX NAME)



IC ICM H05B033-14  
 ICS C07C013-62; C07C043-21; C09K011-06; H05B033-22  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other  
 Related Properties)  
 IT 205-82-3P, Benzo[j]fluoranthene 13438-50-1P, 3-Bromofluoranthene  
 146746-39-6P 146746-40-9P, [1,1'-Binaphthalen]-8-ol  
 146746-41-0P 359012-63-8P 475202-99-4P, 3-  
 Bromobenzo[j]fluoranthene 475203-01-1P  
 (organic electroluminescence component with  
 benzo[4,5]indeno[1,2,3-cd]indeno[1,2,3-lm]perylene derivative)

L37 ANSWER 29 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2002:867322 HCAPLUS Full-text  
 DOCUMENT NUMBER: 137:377521  
 TITLE: Organic electroluminescent device with high  
 emission efficiency and long service life, and its  
 display device  
 INVENTOR(S): Matsuura, Mitsunobu; Oshiyama, Tomohiro; Ueda,  
 Noriko; Yamada, Taketoshi; Kita, Hiroshi  
 PATENT ASSIGNEE(S): Konica Co., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 41 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 2002329577	A	20021115	JP 2001-131667	20010427
			<--	
PRIORITY APPLN. INFO.:			JP 2001-131667	20010427
			<--	

OTHER SOURCE(S): MARPAT 137:377521  
 ED Entered STN: 15 Nov 2002  
 AB The electroluminescent (EL) device has a light-emitting layer containing an  
 organic compound with band gap 2.96-3.80 eV and mol. weight 600-2000 and a  
 phosphor. The display has (A) the above EL device or (B) a conversion layer  
 for absorption of the emission of the above EL device and emission with  
 different maximum wavelength. The use of ≥2 EL devices or conversion layers  
 with different maximum emission wavelength enables full-color display devices.  
 The display device shows low elec. power consumption because of high emission  
 efficiency to improve service life.  
 IT 405171-54-2

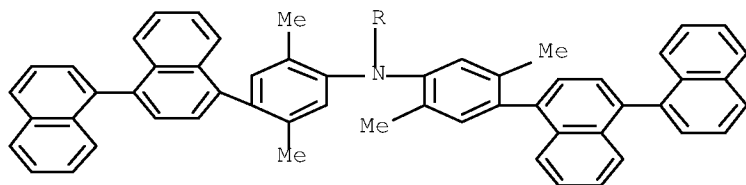
10/774,577

(light-emitting layer containing; organic  
electroluminescent device with high emission efficiency and  
long service life for full-color display device)

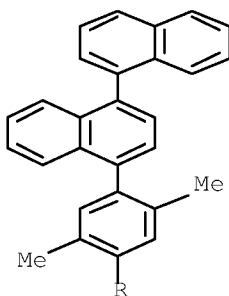
RN 405171-54-2 HCAPLUS

CN Benzenamine, 4-[1,1'-binaphthalen]-4-yl-N,N-bis(4-[1,1'-binaphthalen]-  
4-yl-2,5-dimethylphenyl)-2,5-dimethyl- (CA INDEX NAME)

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IC ICM H05B033-14

ICS C09K011-06; H05B033-12; H05B033-22

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)

Section cross-reference(s): 73

IT 405171-47-3 405171-49-5 405171-50-8 405171-53-1

405171-54-2 405171-87-1 405172-07-8 405172-16-9

405173-85-5 426267-90-5 426267-91-6 426267-92-7 475057-09-1

(light-emitting layer containing; organic  
electroluminescent device with high emission efficiency and  
long service life for full-color display device)

L37 ANSWER 30 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2002:465654 HCAPLUS Full-text

DOCUMENT NUMBER: 137:39157

TITLE: Organic electroluminescent element, material and  
display

INVENTOR(S): Yamada, Taketoshi; Ueda, Noriko; Matsuura,  
Mitsunobu; Kita, Hiroshi

PATENT ASSIGNEE(S): Konica Co., Japan

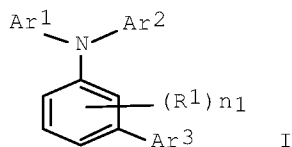
SOURCE: Jpn. Kokai Tokkyo Koho, 45 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002175883	A	20020621	JP 2001-231650	20010731
			<--	
PRIORITY APPLN. INFO.:			JP 2000-285050	A 20000920
			<--	
			JP 2000-292124	A 20000926
			<--	

OTHER SOURCE(S): MARPAT 137:39157  
 ED Entered STN: 21 Jun 2002  
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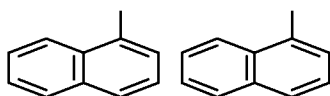
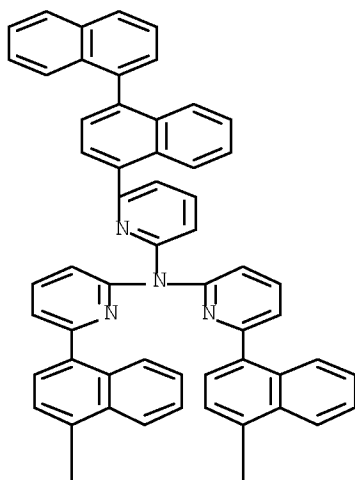


AB The invention refers to an organic electroluminescent device comprising the compound I [Ar1-3 = (un)substituted aromatic hydrocarbon(heterocycllyl); R1 = alkyl, halo, alkoxy; n1 = 0 - 4].

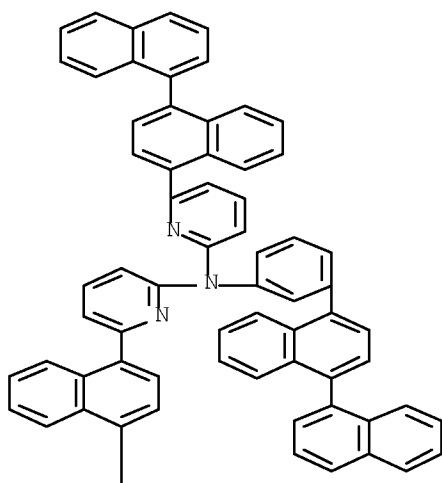
IT 436086-46-3 436086-47-4 436086-48-5  
 436086-50-9 436086-57-6 436086-58-7  
 436086-63-4 436086-71-4  
 (organic electroluminescent element, material and display)

RN 436086-46-3 HCAPLUS

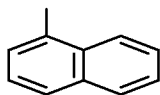
CN 2-Pyridinamine, 6-[1,1'-binaphthalen]-4-yl-N,N-bis(6-[1,1'-binaphthalen]-4-yl-2-pyridinyl)- (CA INDEX NAME)



RN 436086-47-4 HCAPLUS  
 CN 2-Pyridinamine, 6-[1,1'-binaphthalen]-4-yl-N-(3-[1,1'-binaphthalen]-4-ylphenyl)-N-(6-[1,1'-binaphthalen]-4-yl-2-pyridinyl)- (CA INDEX NAME)

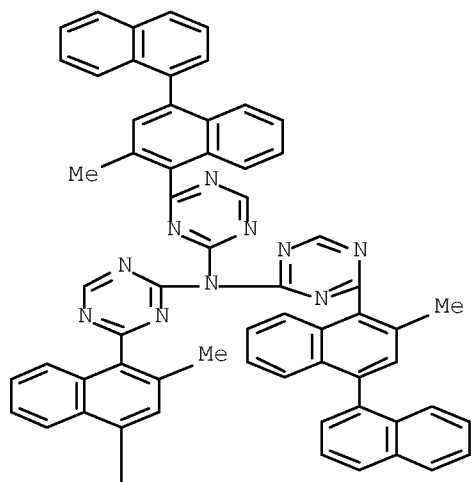


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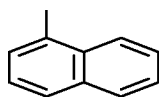


RN 436086-48-5 HCAPLUS  
 CN 1,3,5-Triazin-2-amine, 6-(3-methyl[1,1'-binaphthalen]-4-yl)-N,N-bis[4-(3-methyl[1,1'-binaphthalen]-4-yl)-1,3,5-triazin-2-yl]- (9CI) (CA INDEX NAME)

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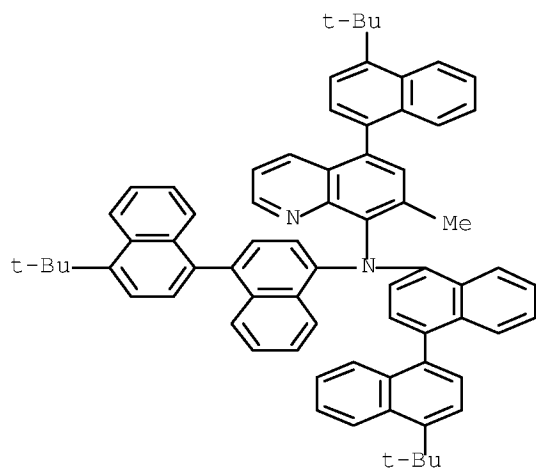


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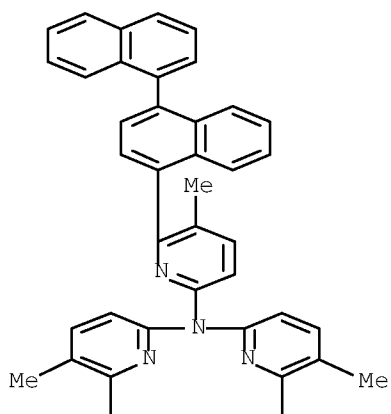
RN 436086-50-9 HCAPLUS  
 CN 8-Quinolinamine, N,N-bis[4'-(1,1-dimethylethyl)[1,1'-binaphthalen]-4-yl]-5-[4-(1,1-dimethylethyl)-1-naphthalenyl]-7-methyl- (CA INDEX NAME)

10/774,577

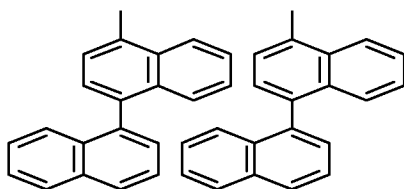


RN 436086-57-6 HCAPLUS  
 CN 2-Pyridinamine, 6-[1,1'-binaphthalen]-4-yl-N,N-bis(6-[1,1'-binaphthalen]-4-yl-5-methyl-2-pyridinyl)-5-methyl- (CA INDEX NAME)

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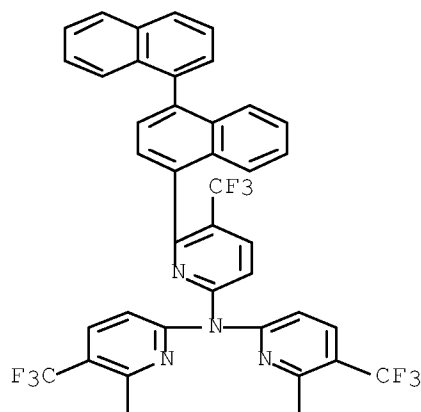


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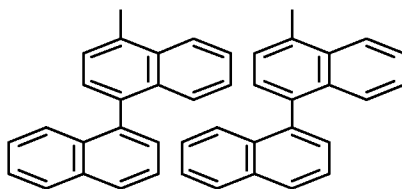


RN 436086-58-7 HCAPLUS  
 CN 2-Pyridinamine, 6-[1,1'-binaphthalen]-4-yl-N,N-bis[6-[1,1'-binaphthalen]-4-yl-5-(trifluoromethyl)-2-pyridinyl]-5-(trifluoromethyl)- (CA INDEX NAME)

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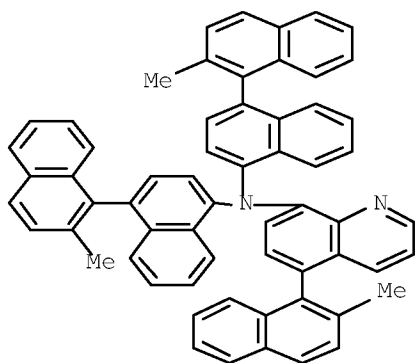


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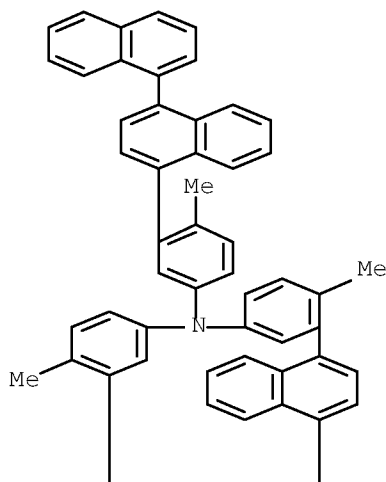
RN 436086-63-4 HCAPLUS  
 CN 8-Quinolinamine, N,N-bis(2'-methyl[1,1'-binaphthalen]-4-yl)-5-(2-methyl-1-naphthalenyl)- (CA INDEX NAME)

10/774,577

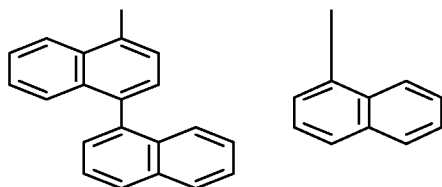


RN 436086-71-4 HCAPLUS  
CN Benzenamine, 3-[1,1'-binaphthalen]-4-yl-N,N-bis(3-[1,1'-binaphthalen]-4-yl-4-methylphenyl)-4-methyl- (CA INDEX NAME)

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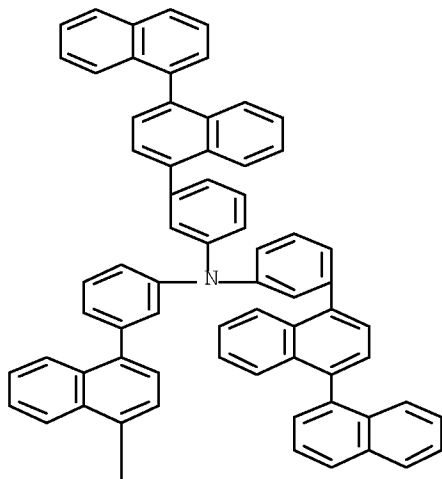
PAGE 2-A



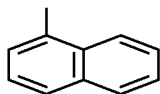
IT 436086-36-1P  
(organic electroluminescent element, material and display)

RN 436086-36-1 HCAPLUS  
 CN Benzenamine, 3-[1,1'-binaphthalen]-4-yl-N,N-bis(3-[1,1'-binaphthalen]-4-ylphenyl)- (CA INDEX NAME)

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PAGE 2-A



IC ICM H05B033-14  
 ICS C07D215-12; C09K011-06; H05B033-04; H05B033-12; H05B033-22  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other  
 Related Properties)  
 IT 436086-40-7 436086-41-8 436086-42-9 436086-43-0 436086-44-1  
 436086-45-2 436086-46-3 436086-47-4  
 436086-48-5 436086-49-6 436086-50-9 436086-51-0  
 436086-52-1 436086-53-2 436086-54-3 436086-55-4 436086-56-5  
 436086-57-6 436086-58-7 436086-59-8 436086-60-1  
 436086-61-2 436086-62-3 436086-63-4 436086-64-5  
 436086-65-6 436086-66-7 436086-67-8 436086-68-9 436086-69-0  
 436086-70-3 436086-71-4  
 (organic electroluminescent element, material and display)  
 IT 436086-36-1P  
 (organic electroluminescent element, material and display)

L37 ANSWER 31 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2002:238119 HCAPLUS Full-text  
 DOCUMENT NUMBER: 136:286301  
 TITLE: Dibenzofluorenopentaphene derivatives and organic  
 electroluminescent devices using them  
 INVENTOR(S): Ishida, Tsutomu; Shimamura, Takehiko; Nakatsuka,

10/774,577

PATENT ASSIGNEE(S): Masakatsu  
 SOURCE: Mitsui Chemicals Inc., Japan  
 Jpn. Kokai Tokkyo Koho, 47 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002093580	A	20020329	JP 2000-221974	20000724
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JP 3995399	B2	20071024		
PRIORITY APPLN. INFO.:			JP 2000-209225	A 20000711
			<--	

OTHER SOURCE(S): MARPAT 136:286301

ED Entered STN: 28 Mar 2002

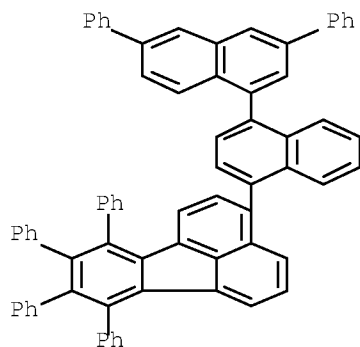
AB The invention relates to an organic electroluminescent device comprising a pair of electrodes sandwiching  $\geq 1$  layer(s) containing  $\geq 1$  dibenzo[kl,rst]fluoreno[9,1,2-cde]pentaphene derivs.

IT 405508-28-3

(3 novel dibenzofluorenopentaphene derivs. for organic electroluminescent devices)

RN 405508-28-3 HCAPLUS

CN Fluoranthene, 3-(3',6'-diphenyl[1,1'-binaphthalen]-4-yl)-7,8,9,10-tetraphenyl- (CA INDEX NAME)

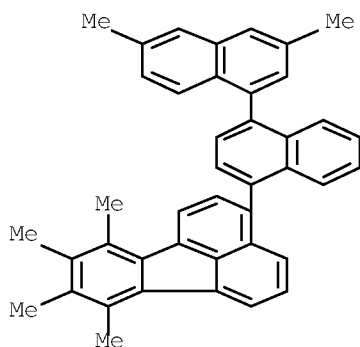


IT 405508-05-6

(9 novel dibenzofluorenopentaphene derivs. for organic electroluminescent devices)

RN 405508-05-6 HCAPLUS

CN Fluoranthene, 3-(3',6'-dimethyl[1,1'-binaphthalen]-4-yl)-7,8,9,10-tetramethyl- (CA INDEX NAME)

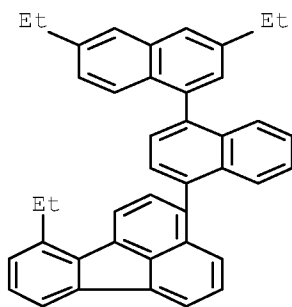


IT 405507-97-3 405508-01-2 405508-03-4  
 405508-06-7 405508-07-8 405508-08-9  
 405508-09-0 405508-10-3 405508-11-4  
 405508-12-5 405508-13-6 405508-15-8  
 405508-16-9 405508-17-0 405508-18-1  
 405508-20-5 405508-21-6 405508-22-7  
 405508-23-8 405508-24-9 405508-25-0  
 405508-26-1 405508-27-2 405508-29-4  
 405508-30-7

(novel dibenzofluorenopentaphene derivs. for organic  
 electroluminescent devices)

RN 405507-97-3 HCAPLUS

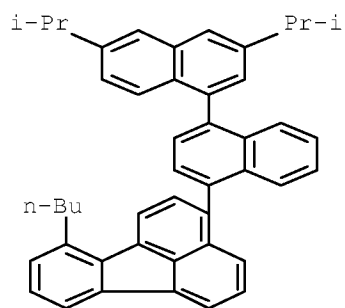
CN Fluoranthene, 3-(3',6'-diethyl[1,1'-binaphthalen]-4-yl)-10-ethyl- (CA  
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RN 405508-01-2 HCAPLUS

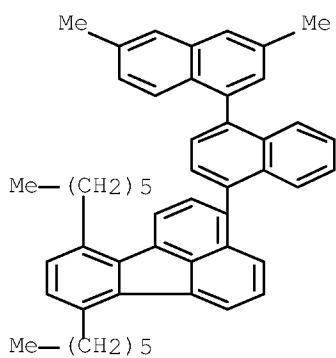
CN Fluoranthene, 3-[3',6'-bis(1-methylethyl)[1,1'-binaphthalen]-4-yl]-10-  
 butyl- (CA INDEX NAME)

10/774,577



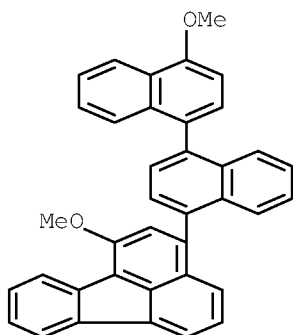
RN 405508-03-4 HCAPLUS

CN Fluoranthene, 3-(3',6'-dimethyl[1,1'-binaphthalen]-4-yl)-7,10-dihexyl-  
(CA INDEX NAME)



RN 405508-06-7 HCAPLUS

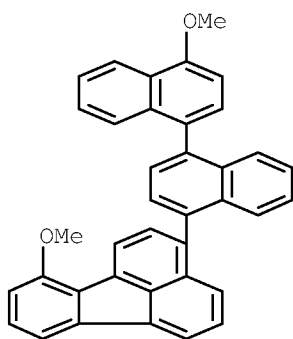
CN Fluoranthene, 1-methoxy-3-(4'-methoxy[1,1'-binaphthalen]-4-yl)-  
(CA INDEX NAME)



RN 405508-07-8 HCAPLUS

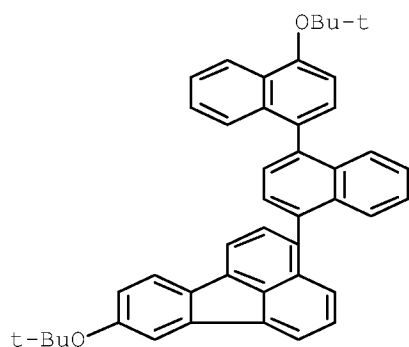
CN Fluoranthene, 10-methoxy-3-(4'-methoxy[1,1'-binaphthalen]-4-yl)-  
(CA INDEX NAME)

10/774,577



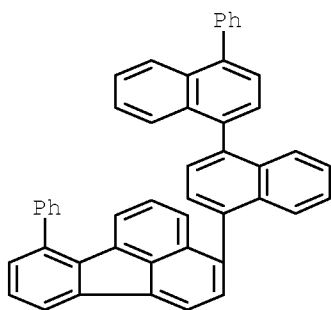
RN 405508-08-9 HCAPLUS

CN Fluoranthene, 8-(1,1-dimethylethoxy)-3-[4'-(1,1-dimethylethoxy)[1,1'-binaphthalen]-4-yl]- (CA INDEX NAME)



RN 405508-09-0 HCAPLUS

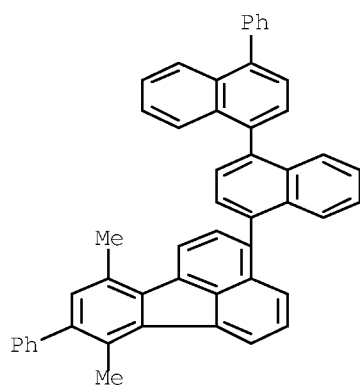
CN Fluoranthene, 7-phenyl-3-(4'-phenyl[1,1'-binaphthalen]-4-yl)- (CA INDEX NAME)



RN 405508-10-3 HCAPLUS

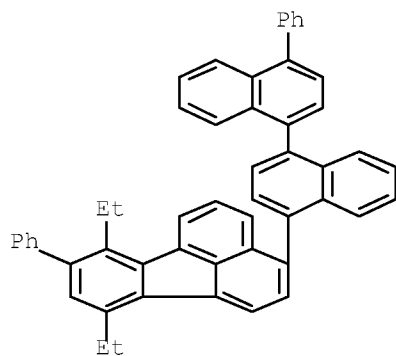
CN Fluoranthene, 7,10-dimethyl-8-phenyl-3-(4'-phenyl[1,1'-binaphthalen]-4-yl)-

yl)- (CA INDEX NAME)



RN 405508-11-4 HCAPLUS

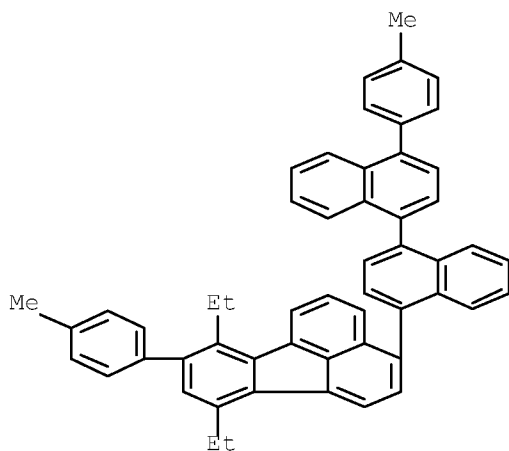
CN Fluoranthene, 7,10-diethyl-8-phenyl-3-(4'-phenyl[1,1'-binaphthalen]-4-yl)- (CA INDEX NAME)



RN 405508-12-5 HCAPLUS

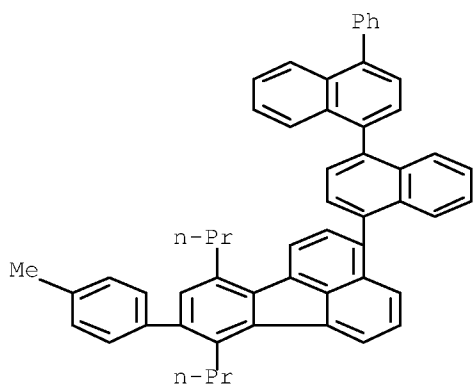
CN Fluoranthene, 7,10-diethyl-8-(4-methylphenyl)-3-[4'-(4-methylphenyl)[1,1'-binaphthalen]-4-yl]- (CA INDEX NAME)

10/774,577



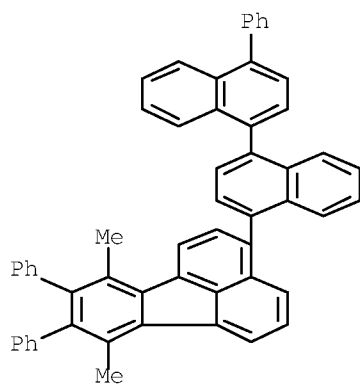
RN 405508-13-6 HCAPLUS

CN Fluoranthene, 8-(4-methylphenyl)-3-(4'-phenyl[1,1'-binaphthalen]-4-yl)-7,10-dipropyl- (CA INDEX NAME)



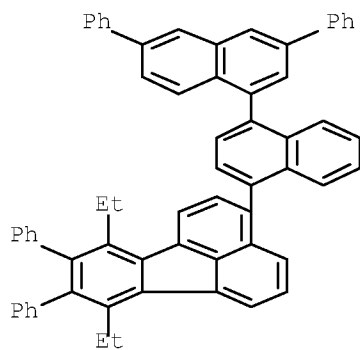
RN 405508-15-8 HCAPLUS

CN Fluoranthene, 7,10-dimethyl-8,9-diphenyl-3-(4'-phenyl[1,1'-binaphthalen]-4-yl)- (CA INDEX NAME)



RN 405508-16-9 HCAPLUS

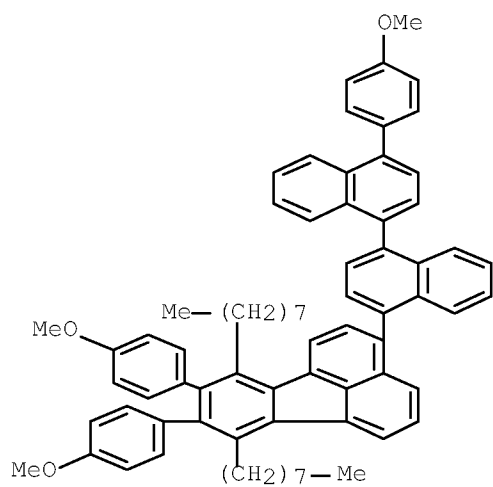
CN Fluoranthene, 3-(3',6'-diphenyl[1,1'-binaphthalen]-4-yl)-7,10-diethyl-8,9-diphenyl- (CA INDEX NAME)



RN 405508-17-0 HCAPLUS

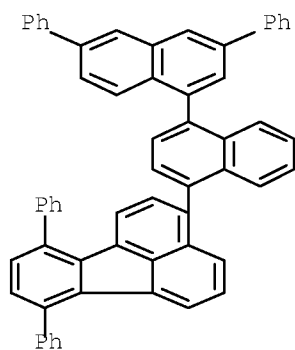
CN Fluoranthene, 8,9-bis(4-methoxyphenyl)-3-[4'-(4-methoxyphenyl)[1,1'-binaphthalen]-4-yl]-7,10-dioctyl- (CA INDEX NAME)

10/774,577



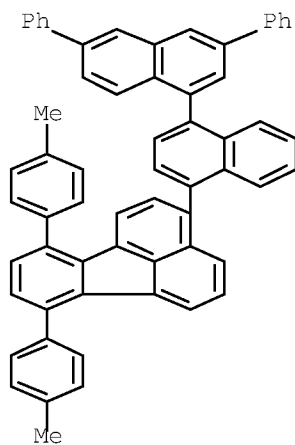
RN 405508-18-1 HCAPLUS

CN Fluoranthene, 3-(3',6'-diphenyl[1,1'-binaphthalen]-4-yl)-7,10-diphenyl-  
(CA INDEX NAME)



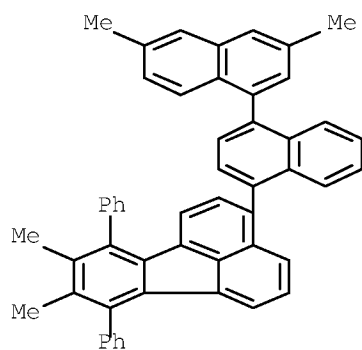
RN 405508-20-5 HCAPLUS

CN Fluoranthene, 3-(3',6'-diphenyl[1,1'-binaphthalen]-4-yl)-7,10-bis(4-  
methylphenyl)- (CA INDEX NAME)



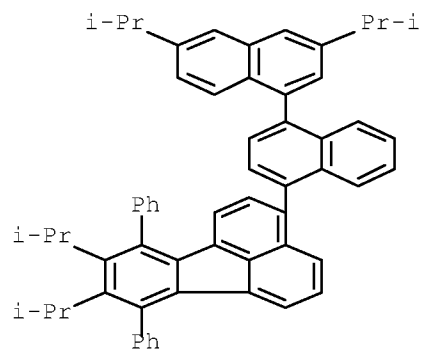
RN 405508-21-6 HCAPLUS

CN Fluoranthene, 3-(3',6'-dimethyl[1,1'-binaphthalen]-4-yl)-8,9-dimethyl-7,10-diphenyl- (CA INDEX NAME)



RN 405508-22-7 HCAPLUS

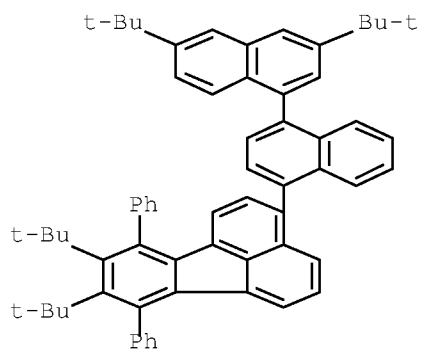
CN Fluoranthene, 3-[3',6'-bis(1-methylethyl)[1,1'-binaphthalen]-4-yl]-8,9-bis(1-methylethyl)-7,10-diphenyl- (CA INDEX NAME)



10/774,577

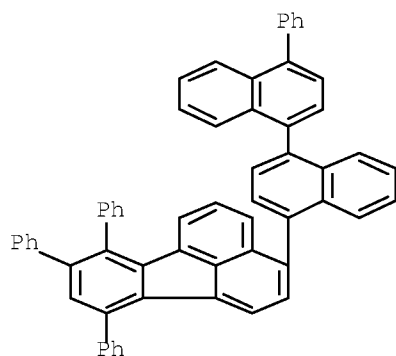
RN 405508-23-8 HCAPLUS

CN Fluoranthene, 3-[3',6'-bis(1,1-dimethylethyl)[1,1'-binaphthalen]-4-yl]-8,9-bis(1,1-dimethylethyl)-7,10-diphenyl- (CA INDEX NAME)



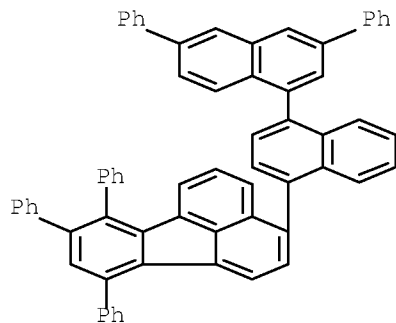
RN 405508-24-9 HCAPLUS

CN Fluoranthene, 7,8,10-triphenyl-3-(4'-phenyl[1,1'-binaphthalen]-4-yl)- (CA INDEX NAME)



RN 405508-25-0 HCAPLUS

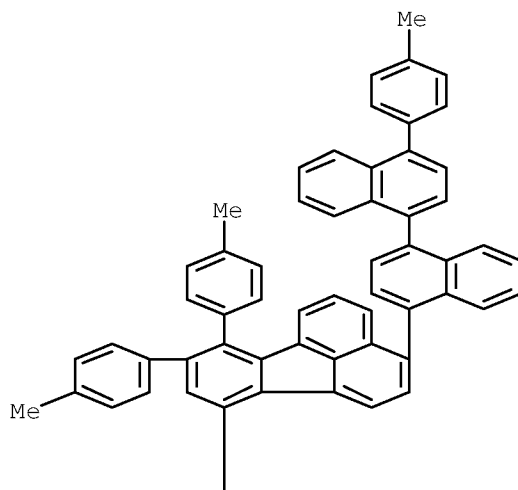
CN Fluoranthene, 3-(3',6'-diphenyl[1,1'-binaphthalen]-4-yl)-7,8,10-triphenyl- (CA INDEX NAME)



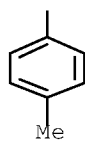
10/774,577

RN 405508-26-1 HCAPLUS  
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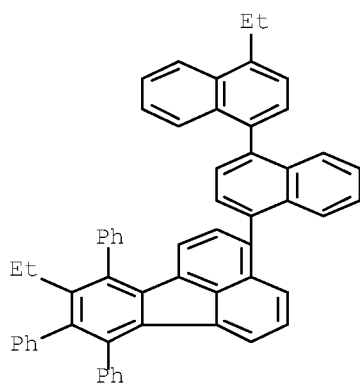
PAGE 1-A



PAGE 2-A

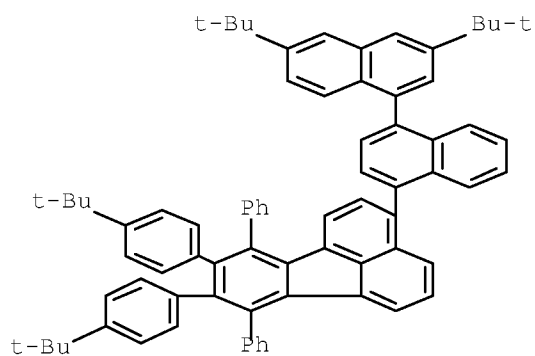


RN 405508-27-2 HCAPLUS  
CN Fluoranthene, 9-ethyl-3-(4'-ethyl[1,1'-binaphthalen]-4-yl)-7,8,10-triphenyl- (CA INDEX NAME)



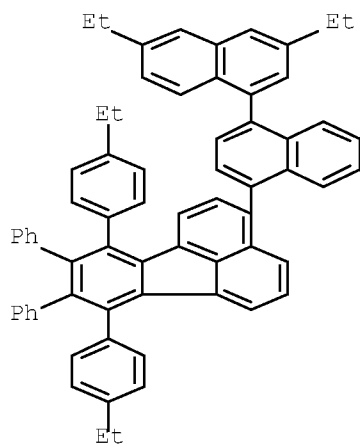
RN 405508-29-4 HCAPLUS

CN Fluoranthene, 3-[3',6'-bis(1,1-dimethylethyl)[1,1'-binaphthalen]-4-yl]-8,9-bis[4-(1,1-dimethylethyl)phenyl]-7,10-diphenyl- (CA INDEX NAME)



RN 405508-30-7 HCAPLUS

CN Fluoranthene, 3-(3',6'-diethyl[1,1'-binaphthalen]-4-yl)-7,10-bis(4-ethylphenyl)-8,9-diphenyl- (CA INDEX NAME)

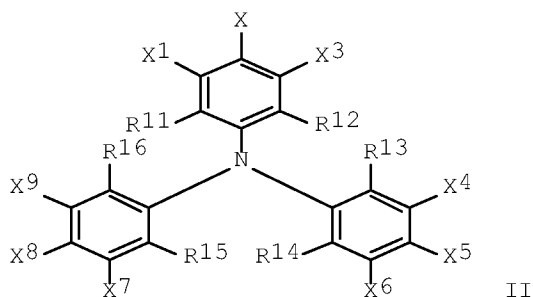
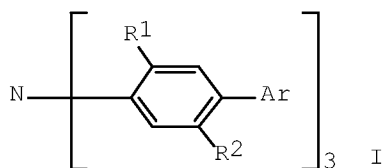


IC ICM H05B033-14  
 ICS C07C013-62; C07C025-22; C07C043-21; C09K011-06  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other  
 Related Properties)  
 Section cross-reference(s): 25  
 IT 405508-28-3  
 (3novel dibenzofluorenopentaphene derivs. for organic  
 electroluminescent devices)  
 IT 405508-05-6  
 (9novel dibenzofluorenopentaphene derivs. for organic  
 electroluminescent devices)  
 IT 405507-97-3 405507-99-5 405508-01-2  
 405508-03-4 405508-04-5 405508-06-7  
 405508-07-8 405508-08-9 405508-09-0  
 405508-10-3 405508-11-4 405508-12-5  
 405508-13-6 405508-14-7 405508-15-8  
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 405508-19-2 405508-20-5 405508-21-6  
 405508-22-7 405508-23-8 405508-24-9  
 405508-25-0 405508-26-1 405508-27-2  
 405508-29-4 405508-30-7 405508-31-8  
 (novel dibenzofluorenopentaphene derivs. for organic  
 electroluminescent devices)

L37 ANSWER 32 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2002:237976 HCAPLUS Full-text  
 DOCUMENT NUMBER: 136:270271  
 TITLE: Organic electroluminescent element and organic  
 electroluminescent material used therefor  
 INVENTOR(S): Ueda, Noriko; Matsuura, Mitsunori; Kita, Hiroshi  
 PATENT ASSIGNEE(S): Konica Corporation, Japan  
 SOURCE: Eur. Pat. Appl., 72 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1191821	A1	20020327	EP 2001-122501	20010921
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JP 2002249765	A	20020906	JP 2001-256036	20010827
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US 20020094452	A1	20020718	US 2001-962483	20010924
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US 6723455	B2	20040420		
PRIORITY APPLN. INFO.:			JP 2000-290466	A 20000925
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			JP 2000-385286	A 20001219
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OTHER SOURCE(S): MARPAT 136:270271  
 ED Entered STN: 28 Mar 2002  
 GI



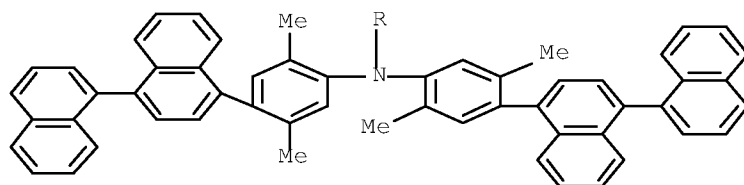
AB Electroluminescent materials are described by the general formula I and II (R1, R2 = independently selected substituents; Ar = (un)substituted aromatic ring or (un)substituted aromatic heterocyclic ring; and R11-16, X1-9 = independently selected H or other substituents with the sum of the steric parameters for R11-16 being  $\leq -2.0$ ). Electroluminescent devices employing the materials and displays employing the devices are also described.

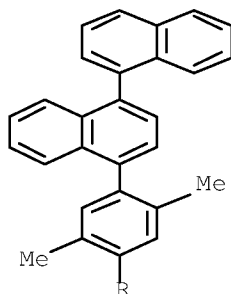
IT 405171-54-2 405171-57-5 405173-23-1  
 (electroluminescent materials based on triphenylamine  
 derivs. and organic electroluminescent devices using them)

RN 405171-54-2 HCAPLUS

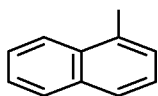
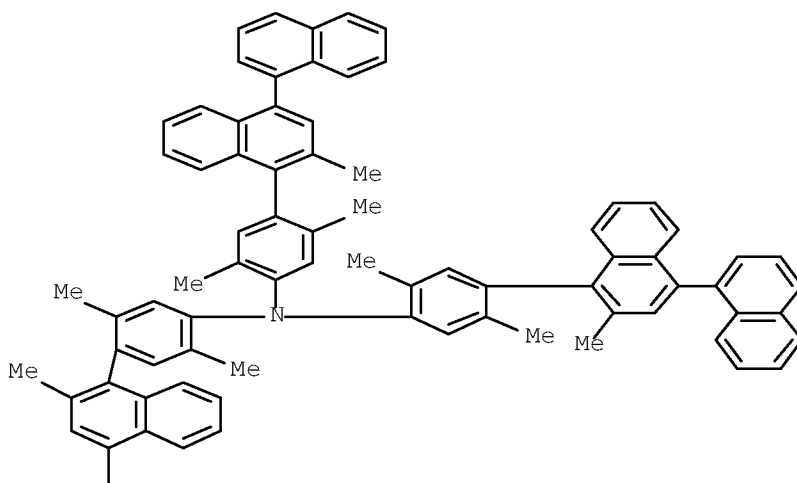
CN Benzenamine, 4-[1,1'-binaphthalen]-4-yl-N,N-bis(4-[1,1'-binaphthalen]-4-yl-2,5-dimethylphenyl)-2,5-dimethyl- (CA INDEX NAME)

PAGE 1-A

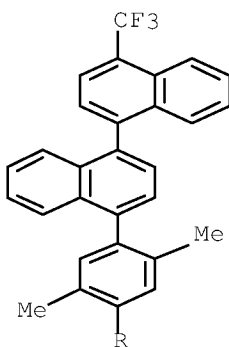
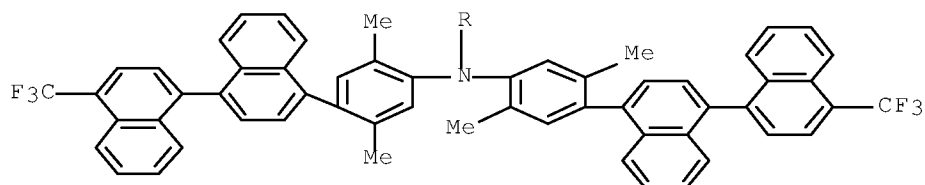




RN 405171-57-5 HCAPLUS  
 CN Benzenamine, N,N-bis[2,5-dimethyl-4-(3-methyl[1,1'-binaphthalen]-4-yl)phenyl]-2,5-dimethyl-4-(3-methyl[1,1'-binaphthalen]-4-yl)- (CA INDEX NAME)



RN 405173-23-1 HCAPLUS  
 CN Benzenamine, N,N-bis[2,5-dimethyl-4-[4'-(trifluoromethyl)[1,1'-binaphthalen]-4-yl]phenyl]-2,5-dimethyl-4-[4'-(trifluoromethyl)[1,1'-binaphthalen]-4-yl]- (CA INDEX NAME)



IC ICM H05B033-14  
ICS C09K011-06; H01L051-20  
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other  
Related Properties)  
Section cross-reference(s): 25, 76  
IT 405171-46-2 405171-47-3 405171-48-4 405171-49-5 405171-50-8  
405171-51-9 405171-52-0 405171-53-1 405171-54-2  
405171-57-5 405171-87-1 405172-07-8 405172-16-9  
405172-39-6 405172-50-1 405172-65-8 405172-85-2 405173-00-4  
405173-23-1 405173-85-5 405174-01-8  
(electroluminescent materials based on triphenylamine  
derivs. and organic electroluminescent devices using them)  
REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR  
THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
RE FORMAT

L37 ANSWER 33 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 2002:221136 HCAPLUS Full-text  
DOCUMENT NUMBER: 136:254380  
TITLE: Organometallic complexes as phosphorescent  
emitters in organic LEDs  
INVENTOR(S): Thompson, Mark E.; Djurovich, Peter; Lamansky,  
Sergey; Murphy, Drew; Kwong, Raymond;  
Abdel-Razzaq, Feras; Forrest, Stephen R.; Baldo,  
Marc A.; Burrows, Paul E.  
PATENT ASSIGNEE(S): The Trustees of Princeton University, USA; The  
University of Southern California  
SOURCE: U.S. Pat. Appl. Publ., 77 pp., Cont.-in-part of U.

10/774,577

S. Ser. No. 274,609, abandoned.

CODEN: USXXCO

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT: 5

PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE -----
US 20020034656	A1	20020321	US 2001-883734 <--	20010618
US 6830828	B2	20041214		
US 6097147	A	20000801	US 1998-153144 <--	19980914
EP 1729327	A1	20061206	EP 2006-16911 <--	20000511
R: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE, AL, LT, LV, MK, RO, SI				
CN 1840607	A	20061004	CN 2005-10109631 <--	20001129
US 20030017361	A1	20030123	US 2002-171235 <--	20020613
US 6902830	B2	20050607		
US 20040262576	A1	20041230	US 2004-870788 <--	20040616
US 7001536	B2	20060221		
JP 2005344124	A	20051215	JP 2005-241794 <--	20050823
US 20060029829	A1	20060209	US 2005-233605 <--	20050922
US 7291406	B2	20071106		
JP 2007254755	A	20071004	JP 2007-140927 <--	20070528
US 20070296332	A1	20071227	US 2007-879379 <--	20070716

PRIORITY APPLN. INFO.:

US 1998-153144 <--	A2 19980914
US 1999-274609 <--	B2 19990323
US 1999-311126 <--	B2 19990513
US 1999-452346 <--	B2 19991201
EP 2000-932308 <--	A3 20000511
JP 2000-619011 <--	A3 20000511
CN 2000-817482 <--	A3 20001129
JP 2001-541304 <--	A3 20001129
US 2001-883734 <--	A3 20010618
US 2002-171235 <--	A3 20020613
US 2004-870788 <--	A1 20040616
US 2005-233605	A1 20050922

OTHER SOURCE(S):

MARPAT 136:254380

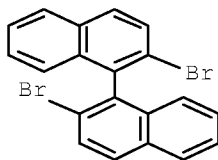
ED Entered STN: 22 Mar 2002

AB Emissive layers of organic light-emitting devices are described which comprise a phosphorescent organometallic compound for enhancing the quantum efficiency of the organic light-emitting device. Preferably the emissive mol. is selected from the group of phosphorescent organometallic complexes, including cyclometallated platinum, iridium, and osmium complexes. The organic light-emitting devices optionally contain an exciton blocking layer. In particular, organic light-emitting devices with an emitter layer comprising organometallic complexes of transition metals of formula  $L_2MX$ , wherein L and X are distinct bidentate ligands and M is a metal which forms octahedral complexes, are described. A method of making a composition of the formula  $L_2MX$  is described which entails combining a bridged dimer of formula  $L_2M(\mu-Cl)_2ML_2$  with a Bronsted acid XH to make the desired organometallic complex. Display devices incorporating the light-emitting devices are also described.

IT 74866-28-7P, 2,2'-Dibromo-1,1'-binaphthyl  
(organometallic complexes and their preparation and organic light  
-emitting devices using them as phosphorescent emitters)

RN 74866-28-7 HCAPLUS

CN 1,1'-Binaphthalene, 2,2'-dibromo- (CA INDEX NAME)



IC ICM H05B033-14  
ICS C09K011-06

INCL 428690000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other  
Related Properties)  
Section cross-reference(s): 74, 76, 78

IT 1008-89-5P, 2-Phenylpyridine 1454-80-4P, 2,2'-Diaminobiphenyl  
2436-96-6P, 2,2'-Dinitrobiphenyl 3164-18-9P, 2-(1-  
Naphthyl)benzoxazole 3319-99-1P, 2-(2-Thienyl)pyridine  
13029-09-9P, 2,2'-Dibromobiphenyl 34243-33-9P 57175-14-1P  
74866-28-7P, 2,2'-Dibromo-1,1'-binaphthyl 109306-86-7P  
116563-45-2P 343978-82-5P 343978-90-5P  
(organometallic complexes and their preparation and organic light  
-emitting devices using them as phosphorescent emitters)

REFERENCE COUNT: 170 THERE ARE 170 CITED REFERENCES AVAILABLE FOR  
THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
RE FORMAT

L37 ANSWER 34 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2002:139110 HCAPLUS Full-text

DOCUMENT NUMBER: 136:175292

TITLE: Dibenzo[*kl,rst*]acenaphtho[1',2':6,7]fluoreno[9,1,2-  
cde]pentaphene derivatives and organic  
electroluminescent devices using them

INVENTOR(S): Ishida, Tsutomu; Shimamura, Takehiko; Totani,  
Yoshiyuki; Nakatsuka, Masakatsu

PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 51 pp.

10/774,577

CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002056979	A	20020222	JP 2000-242475	20000810
			<--	
PRIORITY APPLN. INFO.:			JP 2000-242475	20000810
			<--	

OTHER SOURCE(S): MARPAT 136:175292

ED Entered STN: 22 Feb 2002

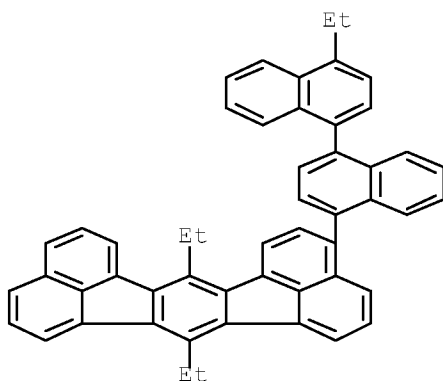
AB The invention relates to an organic electroluminescent device comprising a pair of electrodes sandwiching  $\geq 1$  layer(s) containing  $\geq 1$  dibenzo[kl,rst]acenaphtho[1',2':6,7]fluoreno[9,1,2-cde]pentaphene derivs..

IT 396099-75-5 396099-77-7 396099-78-8  
396099-79-9 396099-80-2 396099-81-3  
396099-82-4 396099-83-5 396099-86-8  
396099-87-9 396099-88-0 396099-89-1  
396099-90-4 396099-92-6 396099-94-8  
396099-95-9 396099-96-0 396099-97-1  
396099-98-2 396099-99-3 396100-00-3  
396100-02-0 396100-03-1 396100-04-2  
396100-05-3 396100-06-4 396100-07-5  
396100-08-6 396100-09-7 396100-10-0

(novel dibenzoacenaphthofluorenopentaphene derivs. for organic electroluminescent devices)

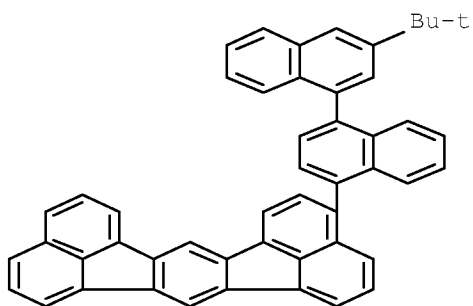
RN 396099-75-5 HCAPLUS

CN Acenaphtho[1,2-k]fluoranthene, 7,14-diethyl-3-(4'-ethyl[1,1'-binaphthalen]-4-yl)- (9CI) (CA INDEX NAME)



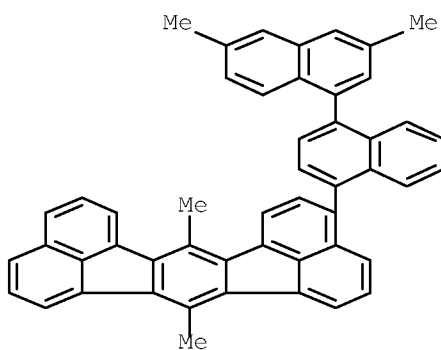
RN 396099-77-7 HCAPLUS

CN Acenaphtho[1,2-k]fluoranthene, 3-[3'-(1,1-dimethylethyl)[1,1'-binaphthalen]-4-yl]- (CA INDEX NAME)



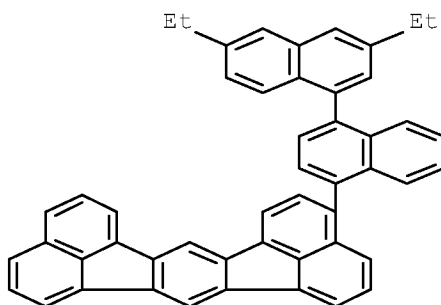
RN 396099-78-8 HCAPLUS

CN Acenaphtho[1,2-k]fluoranthene, 3-(3',6'-dimethyl[1,1'-binaphthalen]-4-yl)-7,14-dimethyl- (CA INDEX NAME)



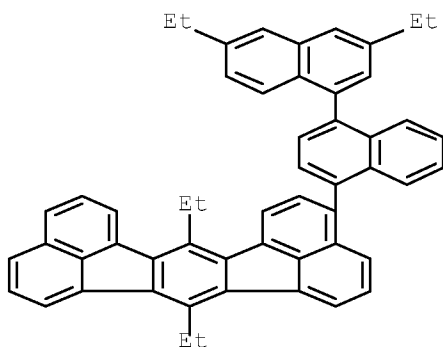
RN 396099-79-9 HCAPLUS

CN Acenaphtho[1,2-k]fluoranthene, 3-(3',6'-diethyl[1,1'-binaphthalen]-4-yl)-7,14-dimethyl- (CA INDEX NAME)



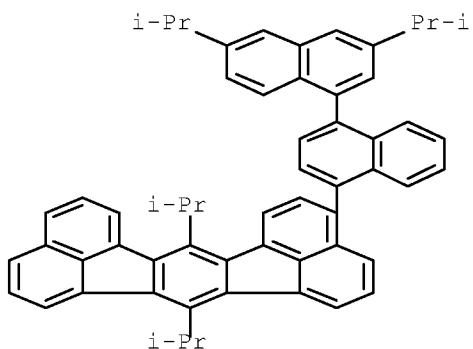
RN 396099-80-2 HCAPLUS

CN Acenaphtho[1,2-k]fluoranthene, 3-(3',6'-diethyl[1,1'-binaphthalen]-4-yl)-7,14-diethyl- (CA INDEX NAME)



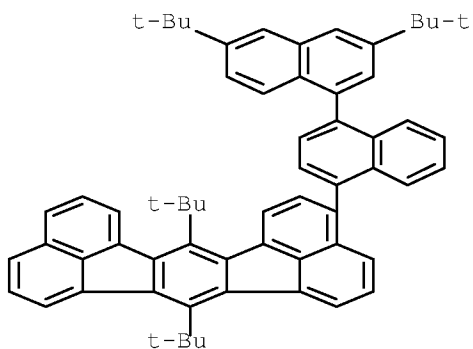
RN 396099-81-3 HCAPLUS

CN Acenaphtho[1,2-k]fluoranthene, 3-[3',6'-bis(1-methylethyl)[1,1'-binaphthalen]-4-yl]-7,14-bis(1-methylethyl)- (CA INDEX NAME)



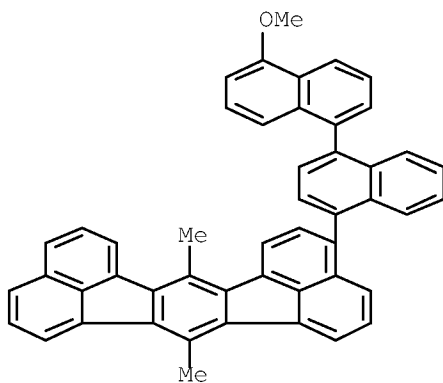
RN 396099-82-4 HCAPLUS

CN Acenaphtho[1,2-k]fluoranthene, 3-[3',6'-bis(1,1-dimethylethyl)[1,1'-binaphthalen]-4-yl]-7,14-bis(1,1-dimethylethyl)- (CA INDEX NAME)



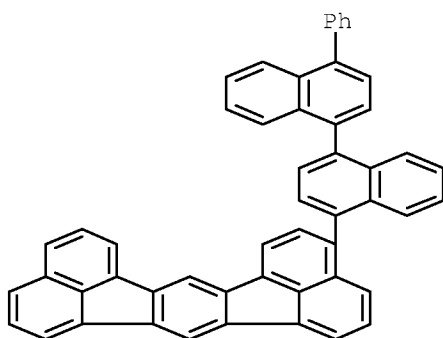
RN 396099-83-5 HCAPLUS

CN Acenaphtho[1,2-k]fluoranthene, 3-(5'-methoxy[1,1'-binaphthalen]-4-yl)-7,14-dimethyl- (CA INDEX NAME)



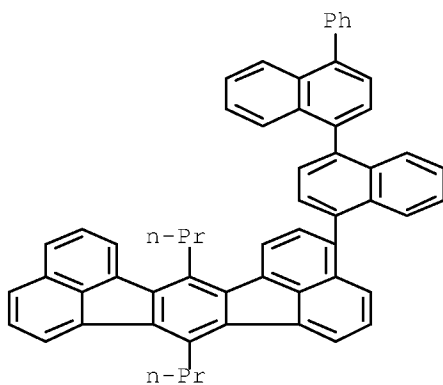
RN 396099-86-8 HCAPLUS

CN Acenaphtho[1,2-k]fluoranthene, 3-(4'-phenyl[1,1'-binaphthalen]-4-yl)-  
(CA INDEX NAME)

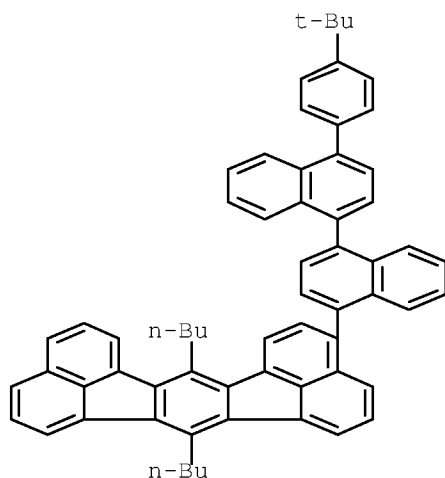


RN 396099-87-9 HCAPLUS

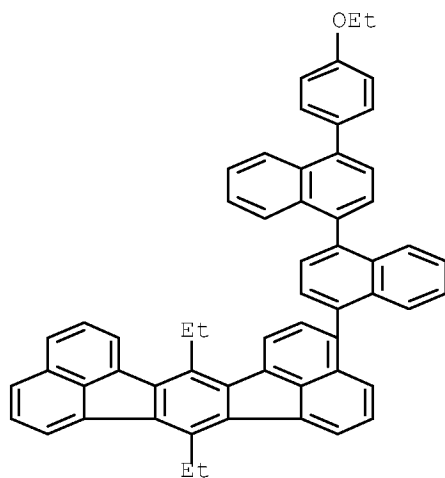
CN Acenaphtho[1,2-k]fluoranthene, 3-(4'-phenyl[1,1'-binaphthalen]-4-yl)-  
7,14-dipropyl- (9CI) (CA INDEX NAME)



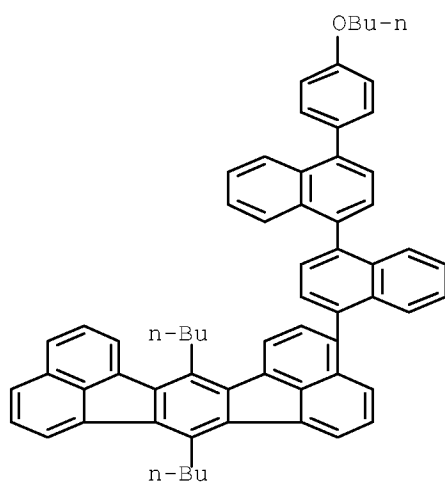
RN 396099-88-0 HCAPLUS  
 CN Acenaphtho[1,2-k]fluoranthene, 7,14-dibutyl-3-[4'-[4-(1,1-dimethylethyl)phenyl][1,1'-binaphthalen]-4-yl]- (CA INDEX NAME)



RN 396099-89-1 HCAPLUS  
 CN Acenaphtho[1,2-k]fluoranthene, 3-[4'-(4-ethoxyphenyl)[1,1'-binaphthalen]-4-yl]-7,14-diethyl- (CA INDEX NAME)

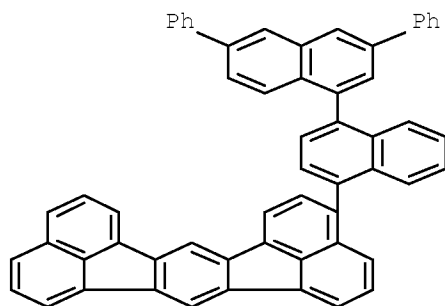


RN 396099-90-4 HCAPLUS  
 CN Acenaphtho[1,2-k]fluoranthene, 3-[4'-(4-butoxyphenyl)[1,1'-binaphthalen]-4-yl]-7,14-dibutyl- (CA INDEX NAME)



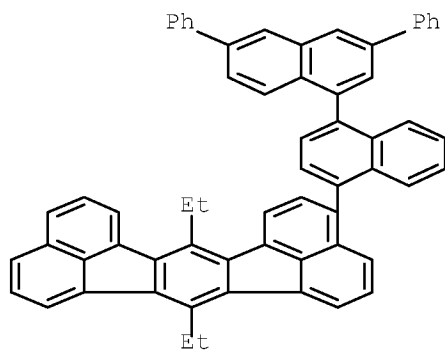
RN 396099-92-6 HCAPLUS

CN Acenaphtho[1,2-k]fluoranthene, 3-(3',6'-diphenyl[1,1'-binaphthalen]-4-yl)- (CA INDEX NAME)



RN 396099-94-8 HCAPLUS

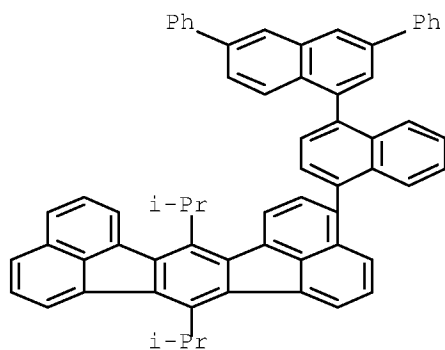
CN Acenaphtho[1,2-k]fluoranthene, 3-(3',6'-diphenyl[1,1'-binaphthalen]-4-yl)-7,14-diethyl- (CA INDEX NAME)



10/774,577

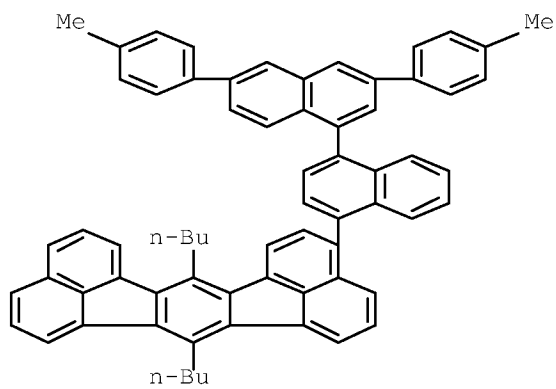
RN 396099-95-9 HCAPLUS

CN Acenaphtho[1,2-k]fluoranthene, 3-(3',6'-diphenyl[1,1'-binaphthalen]-4-yl)-7,14-bis(1-methylethyl)- (CA INDEX NAME)



RN 396099-96-0 HCAPLUS

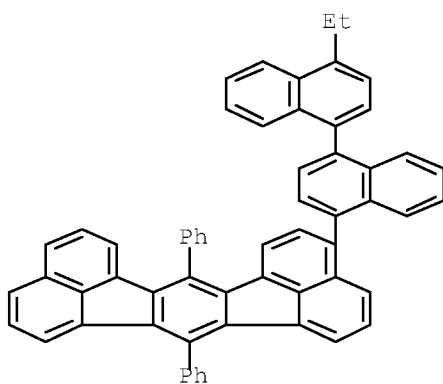
CN Acenaphtho[1,2-k]fluoranthene, 3-[3',6'-bis(4-methylphenyl)[1,1'-binaphthalen]-4-yl]-7,14-dibutyl- (CA INDEX NAME)



RN 396099-97-1 HCAPLUS

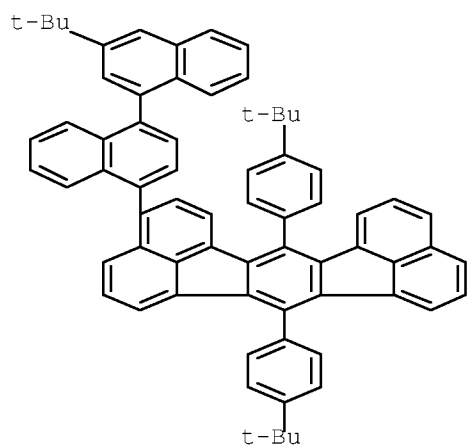
CN Acenaphtho[1,2-k]fluoranthene, 3-(4'-ethyl[1,1'-binaphthalen]-4-yl)-7,14-diphenyl- (CA INDEX NAME)

10/774,577



RN 396099-98-2 HCAPLUS

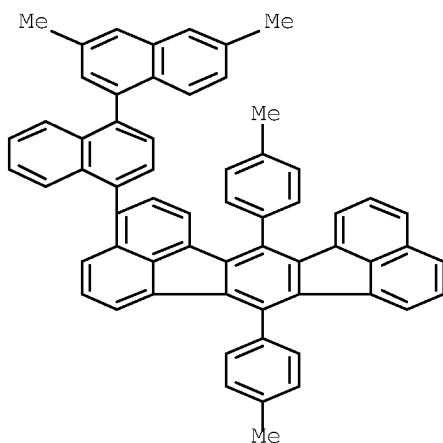
CN Acenaphtho[1,2-k]fluoranthene, 3-[3'-(1,1-dimethylethyl)[1,1'-binaphthalen]-4-yl]-7,14-bis[4-(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)



RN 396099-99-3 HCAPLUS

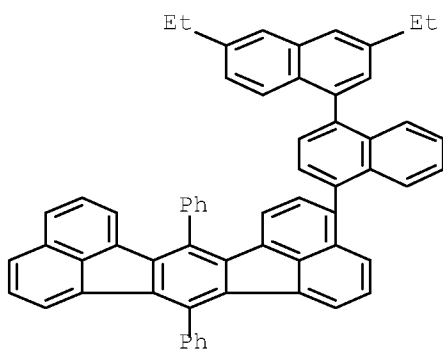
CN Acenaphtho[1,2-k]fluoranthene, 3-(3',6'-dimethyl[1,1'-binaphthalen]-4-yl)-7,14-bis(4-methylphenyl)- (CA INDEX NAME)

10/774,577



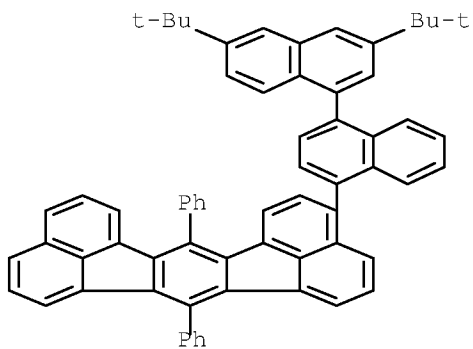
RN 396100-00-8 HCAPLUS

CN Acenaphtho[1,2-k]fluoranthene, 3-(3',6'-diethyl[1,1'-binaphthalen]-4-yl)-7,14-diphenyl- (CA INDEX NAME)



RN 396100-02-0 HCAPLUS

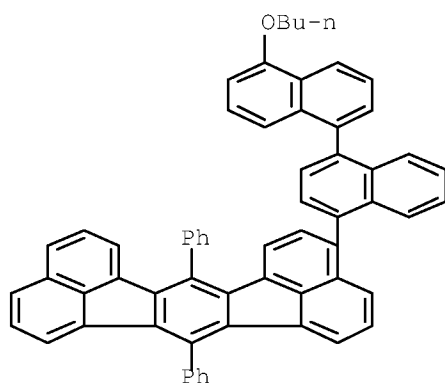
CN Acenaphtho[1,2-k]fluoranthene, 3-[3',6'-bis(1,1-dimethylethyl)[1,1'-binaphthalen]-4-yl]-7,14-diphenyl- (CA INDEX NAME)



10/774,577

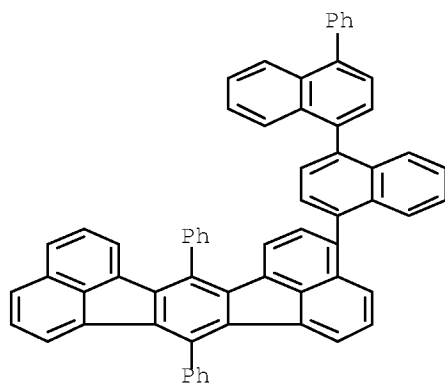
RN 396100-03-1 HCAPLUS

CN Acenaphtho[1,2-k]fluoranthene, 3-(5'-butoxy[1,1'-binaphthalen]-4-yl)-7,14-diphenyl- (CA INDEX NAME)



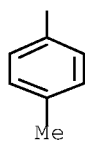
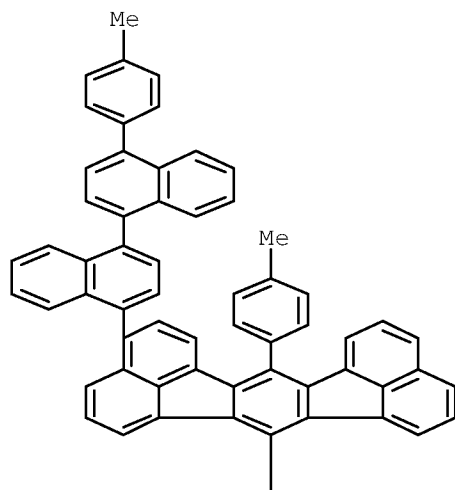
RN 396100-04-2 HCAPLUS

CN Acenaphtho[1,2-k]fluoranthene, 7,14-diphenyl-3-(4'-phenyl[1,1'-binaphthalen]-4-yl)- (9CI) (CA INDEX NAME)

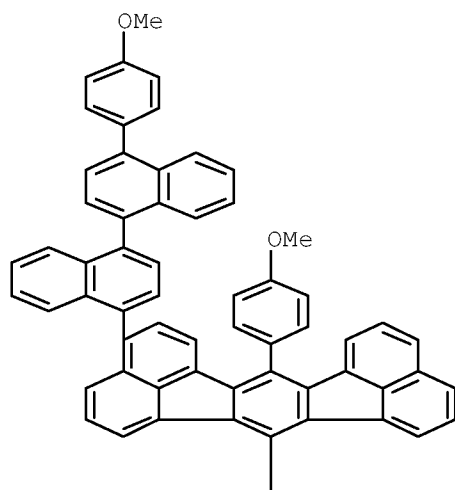


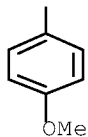
RN 396100-05-3 HCAPLUS

CN Acenaphtho[1,2-k]fluoranthene, 7,14-bis(4-methylphenyl)-3-[4'-(4-methylphenyl)[1,1'-binaphthalen]-4-yl]- (CA INDEX NAME)

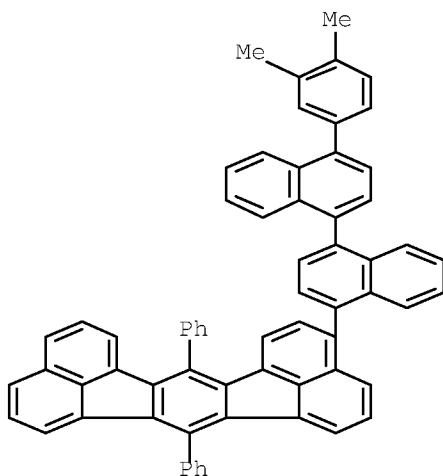


RN 396100-06-4 HCAPLUS  
 CN Acenaphtho[1,2-k]fluoranthene, 7,14-bis(4-methoxyphenyl)-3-[4'-(4-methoxyphenyl)[1,1'-binaphthalen]-4-yl]- (CA INDEX NAME)

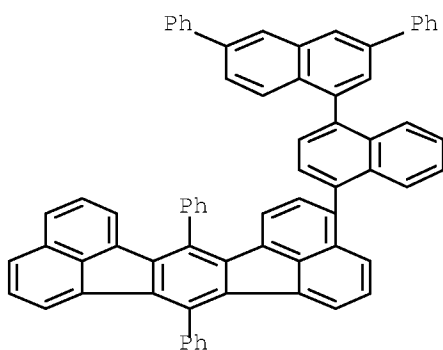




RN 396100-07-5 HCAPLUS  
 CN Acenaphtho[1,2-k]fluoranthene, 3-[4'-(3,4-dimethylphenyl)[1,1'-binaphthalen]-4-yl]-7,14-diphenyl- (CA INDEX NAME)

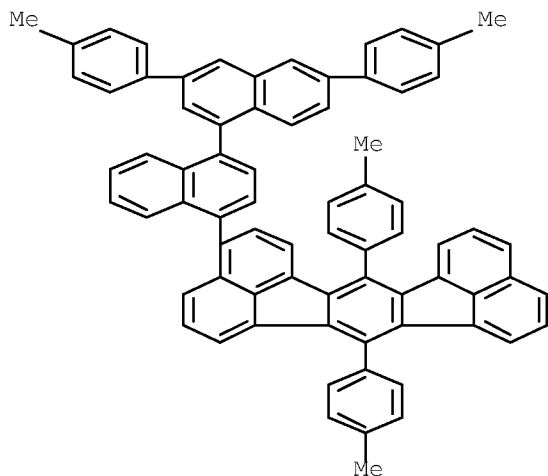


RN 396100-08-6 HCAPLUS  
 CN Acenaphtho[1,2-k]fluoranthene, 3-(3',6'-diphenyl[1,1'-binaphthalen]-4-yl)-7,14-diphenyl- (9CI) (CA INDEX NAME)



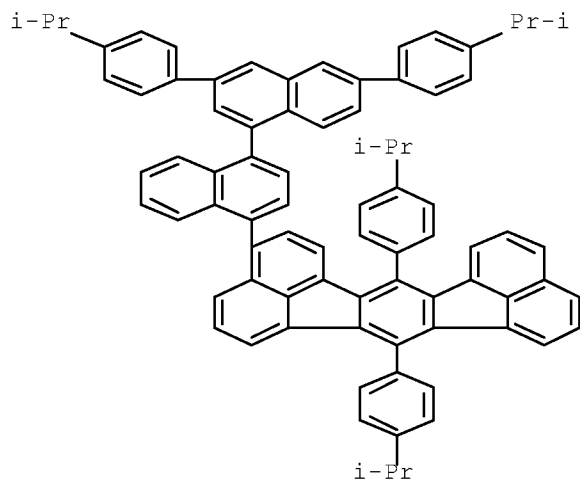
RN 396100-09-7 HCAPLUS

CN Acenaphtho[1,2-k]fluoranthene, 3-[3',6'-bis(4-methylphenyl)[1,1'-binaphthalen]-4-yl]-7,14-bis(4-methylphenyl)- (CA INDEX NAME)



RN 396100-10-0 HCAPLUS

CN Acenaphtho[1,2-k]fluoranthene, 3-[3',6'-bis[4-(1-methylethyl)phenyl][1,1'-binaphthalen]-4-yl]-7,14-bis[4-(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)



IC ICM H05B033-14

ICS C07C013-62; C07C043-20; C07C043-21; C09K011-06

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 25

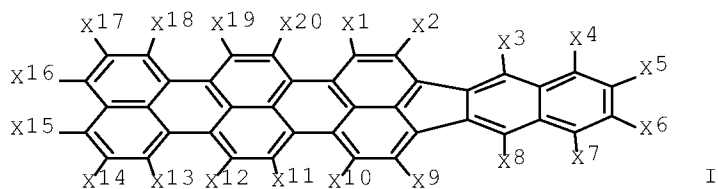
IT 390761-74-7 390761-74-7D, derivs. 390762-17-1 396099-75-5  
396099-76-6 396099-77-7 396099-78-8

396099-79-9 396099-80-2 396099-81-3  
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 396100-02-0 396100-03-1 396100-04-2  
 396100-05-3 396100-06-4 396100-07-5  
 396100-08-6 396100-09-7 396100-10-0  
 (novel dibenzoacenaphthofluorenopentaphene derivs. for organic  
 electroluminescent devices)

L37 ANSWER 35 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2002:69661 HCAPLUS Full-text  
 DOCUMENT NUMBER: 136:126326  
 TITLE: Dibenzo[kl,rst]benzo[6,7]fluoreno[9,1,2-cde]pentaphene derivatives and organic electroluminescent devices containing the same  
 INVENTOR(S): Ishida, Tsutomu; Shimamura, Takehiko; Nakatsuka, Masakatsu  
 PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 56 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002025777	A	20020125	JP 2000-209226	20000711
			<--	
JP 3995396	B2	20071024		
PRIORITY APPLN. INFO.:			JP 2000-209226	20000711
			<--	

OTHER SOURCE(S): MARPAT 136:126326  
 ED Entered STN: 25 Jan 2002  
 GI



AB The organic EL devices have a pair of electrodes and in between,  $\geq 1$  layers, maybe emitter layers, containing dibenzo[kl,rst]benzo[6,7]fluoreno[9,1,2-cde]pentaphene derivs., which may be shown as I (X1-X20 = H, halogen, alkyl, alkoxy, aryl). The I-containing layer may further contain luminescent organometal complexes and triarylamine derivs. The device may further have a hole injection and transport layer and an electron injection and transport

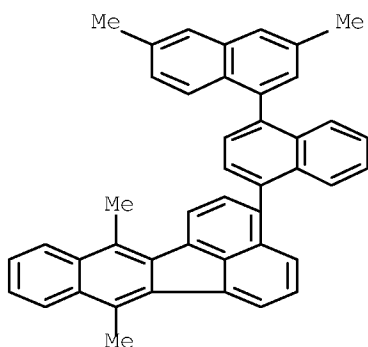
layer between the electrodes. The device have high luminescent efficiency and high brightness.

IT 390774-45-5 390774-48-8 390774-50-2  
 390774-51-3 390774-52-4 390774-53-5  
 390774-56-8 390774-57-9 390774-58-0  
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 390774-73-9 390774-74-0 390774-75-1  
 390774-76-2 390775-05-0

(organic EL devices containing dibenzo[kl,rst]benzo[6,7]fluoreno  
 [9,1,2-cde]pentaphene derivs. in emitter layers prepared from)

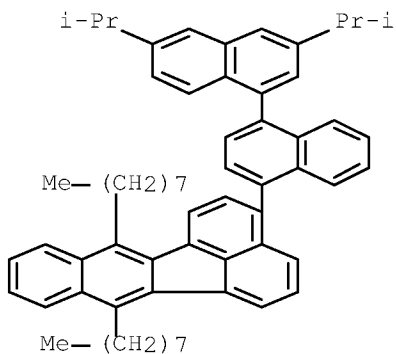
RN 390774-45-5 HCAPLUS

CN Benzo[k]fluoranthene, 3-(3',6'-dimethyl[1,1'-binaphthalen]-4-yl)-7,12-dimethyl- (CA INDEX NAME)



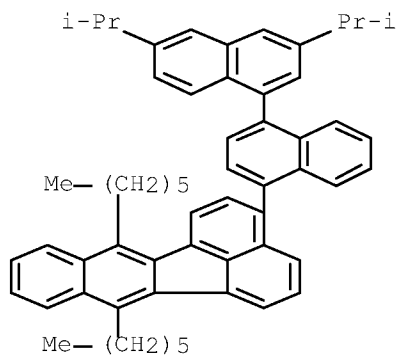
RN 390774-48-8 HCAPLUS

CN Benzo[k]fluoranthene, 3-[3',6'-bis(1-methylethyl)[1,1'-binaphthalen]-4-yl]-7,12-dioctyl- (CA INDEX NAME)



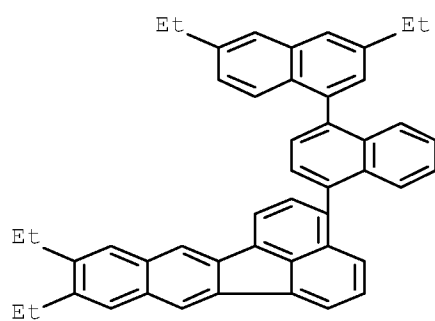
RN 390774-50-2 HCAPLUS

CN Benzo[k]fluoranthene, 3-[3',6'-bis(1-methylethyl)[1,1'-binaphthalen]-4-yl]-7,12-dihexyl- (CA INDEX NAME)



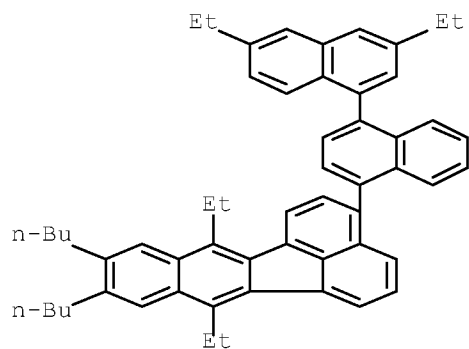
RN 390774-51-3 HCAPLUS

CN Benzo[k]fluoranthene, 3-(3',6'-diethyl[1,1'-binaphthalen]-4-yl)-9,10-diethyl- (CA INDEX NAME)



RN 390774-52-4 HCAPLUS

CN Benzo[k]fluoranthene, 9,10-dibutyl-3-(3',6'-diethyl[1,1'-binaphthalen]-4-yl)-7,12-diethyl- (CA INDEX NAME)

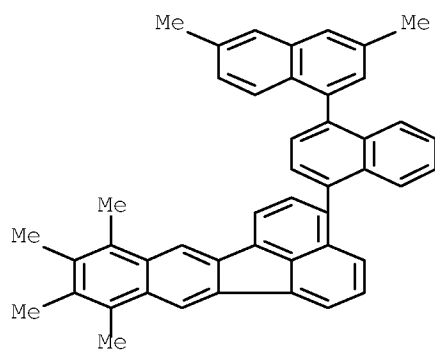


RN 390774-53-5 HCAPLUS

CN Benzo[k]fluoranthene, 3-(3',6'-dimethyl[1,1'-binaphthalen]-4-yl)-

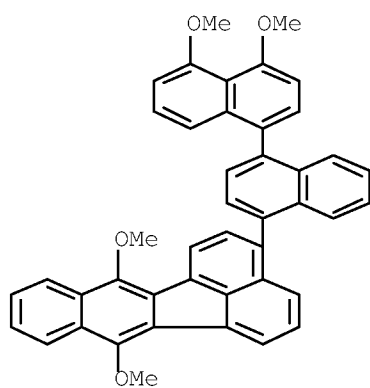
10/774,577

8,9,10,11-tetramethyl- (CA INDEX NAME)



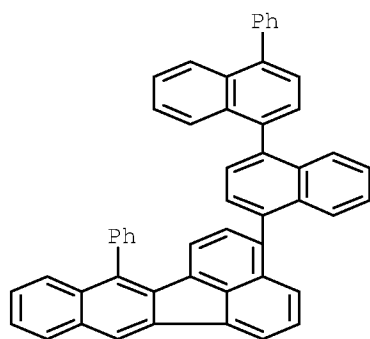
RN 390774-56-8 HCAPLUS

CN Benzo[k]fluoranthene, 3-(4',5'-dimethoxy[1,1'-binaphthalen]-4-yl)-7,12-dimethoxy- (CA INDEX NAME)



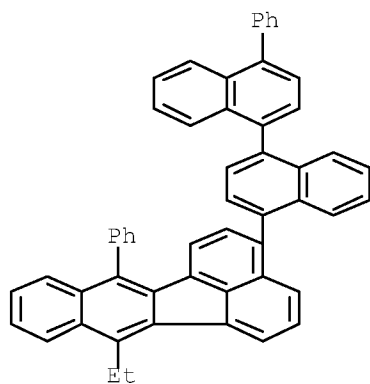
RN 390774-57-9 HCAPLUS

CN Benzo[k]fluoranthene, 12-phenyl-3-(4'-phenyl[1,1'-binaphthalen]-4-yl)- (CA INDEX NAME)



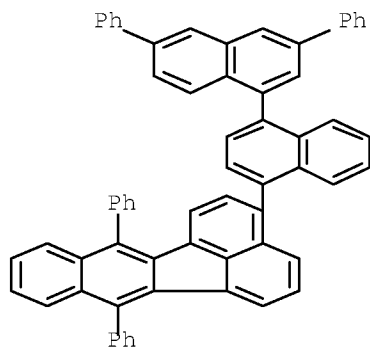
RN 390774-58-0 HCAPLUS

CN Benzo[k]fluoranthene, 7-ethyl-12-phenyl-3-(4'-phenyl[1,1'-binaphthalen]-4-yl)- (CA INDEX NAME)



RN 390774-59-1 HCAPLUS

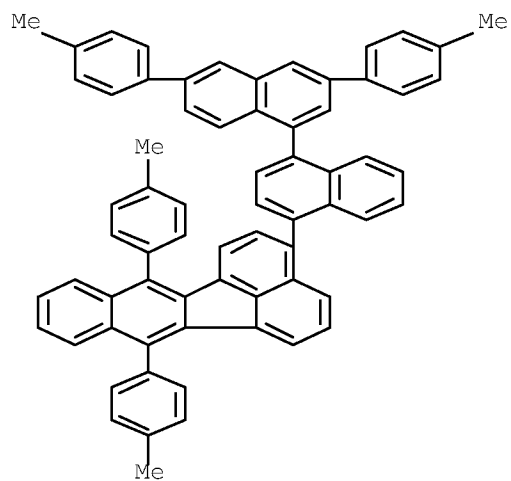
CN Benzo[k]fluoranthene, 3-(3',6'-diphenyl[1,1'-binaphthalen]-4-yl)-7,12-diphenyl- (CA INDEX NAME)



RN 390774-60-4 HCAPLUS

CN Benzo[k]fluoranthene, 3-[3',6'-bis(4-methylphenyl)[1,1'-binaphthalen]-4-yl]-7,12-bis(4-methylphenyl)- (CA INDEX NAME)

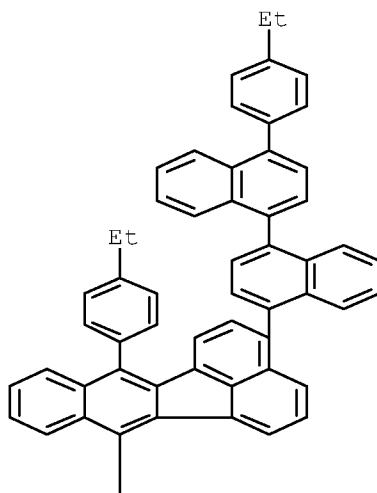
10/774,577



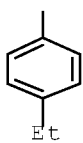
RN 390774-61-5 HCAPLUS

CN Benzo[k]fluoranthene, 7,12-bis(4-ethylphenyl)-3-[4'-(4-ethylphenyl)[1,1'-binaphthalen]-4-yl]- (CA INDEX NAME)

PAGE 1-A



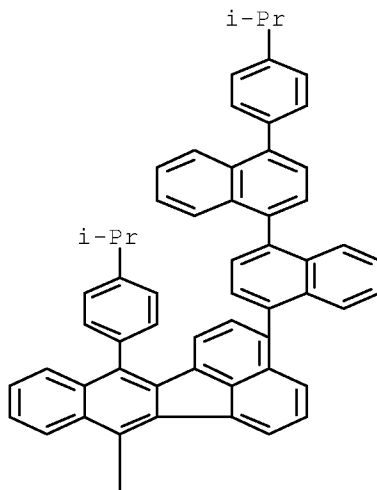
PAGE 2-A



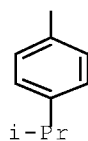
10/774,577

RN 390774-62-6 HCAPLUS  
CN Benzo[k]fluoranthene, 7,12-bis[4-(1-methylethyl)phenyl]-3-[4'-[4-(1-methylethyl)phenyl][1,1'-binaphthalen]-4-yl]- (CA INDEX NAME)

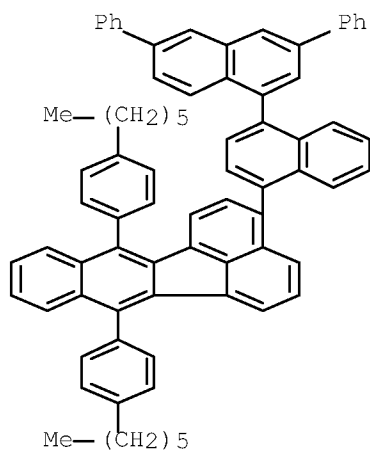
PAGE 1-A



PAGE 2-A

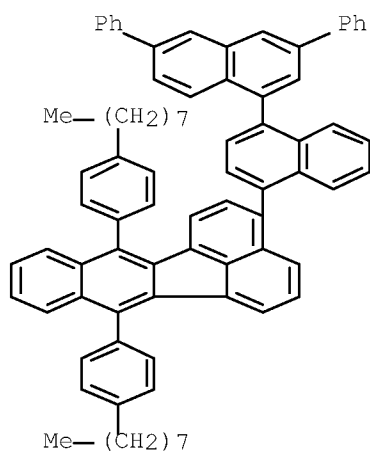


RN 390774-63-7 HCAPLUS  
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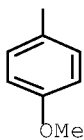
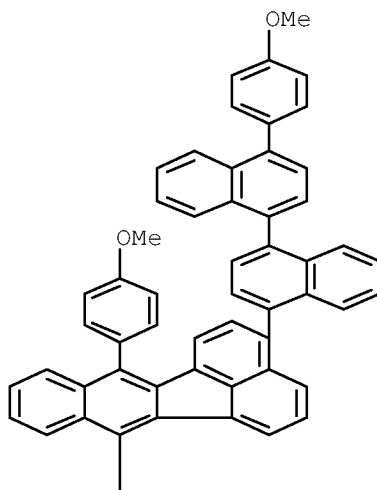
RN 390774-64-8 HCAPLUS

CN Benzo[k]fluoranthene, 3-(3',6'-diphenyl[1,1'-binaphthalen]-4-yl)-7,12-bis(4-octylphenyl)- (CA INDEX NAME)

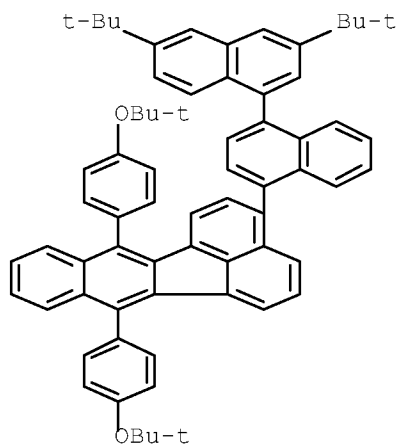


RN 390774-65-9 HCAPLUS

CN Benzo[k]fluoranthene, 7,12-bis(4-methoxyphenyl)-3-[4'-(4-methoxyphenyl)[1,1'-binaphthalen]-4-yl]- (CA INDEX NAME)



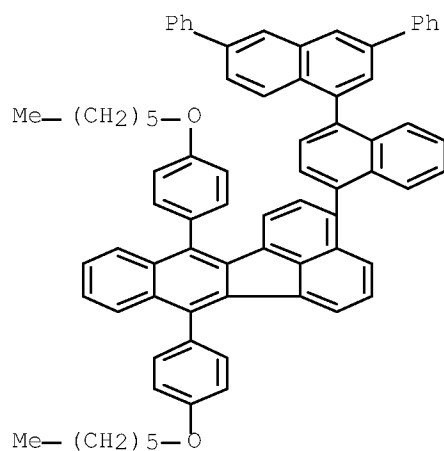
RN 390774-66-0 HCAPLUS  
 CN Benzo[k]fluoranthene, 3-[3',6'-bis(1,1-dimethylethyl)[1,1'-binaphthalen]-4-yl]-7,12-bis[4-(1,1-dimethylethoxy)phenyl]- (CA INDEX NAME)



10/774,577

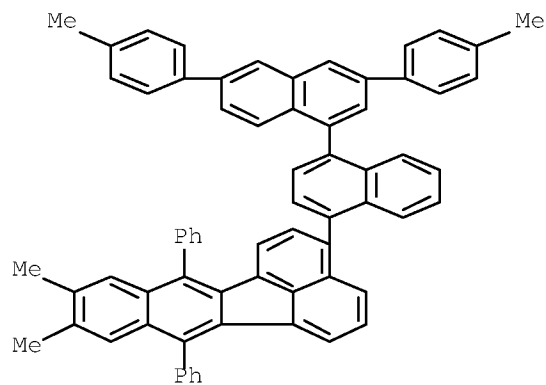
RN 390774-67-1 HCAPLUS

CN Benzo[k]fluoranthene, 3-(3',6'-diphenyl[1,1'-binaphthalen]-4-yl)-7,12-bis[4-(hexyloxy)phenyl]- (CA INDEX NAME)



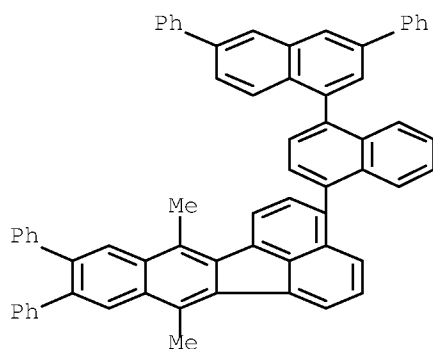
RN 390774-69-3 HCAPLUS

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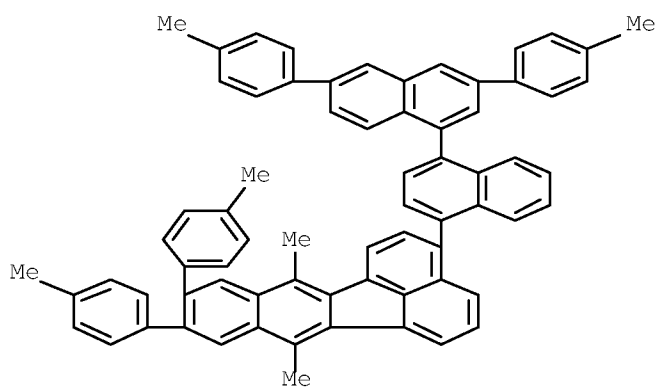
RN 390774-70-6 HCAPLUS

CN Benzo[k]fluoranthene, 3-(3',6'-diphenyl[1,1'-binaphthalen]-4-yl)-7,12-dimethyl-9,10-diphenyl- (CA INDEX NAME)



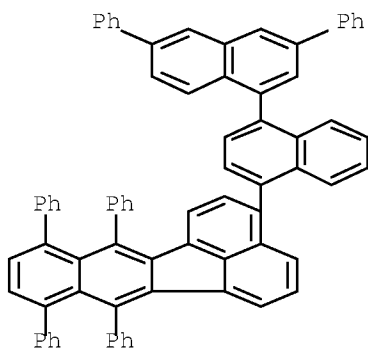
RN 390774-72-8 HCAPLUS

CN Benzo[k]fluoranthene, 3-[3',6'-bis(4-methylphenyl)[1,1'-binaphthalen]-4-yl]-7,12-dimethyl-9,10-bis(4-methylphenyl)- (CA INDEX NAME)



RN 390774-73-9 HCAPLUS

CN Benzo[k]fluoranthene, 3-(3',6'-diphenyl[1,1'-binaphthalen]-4-yl)-7,8,11,12-tetraphenyl- (CA INDEX NAME)

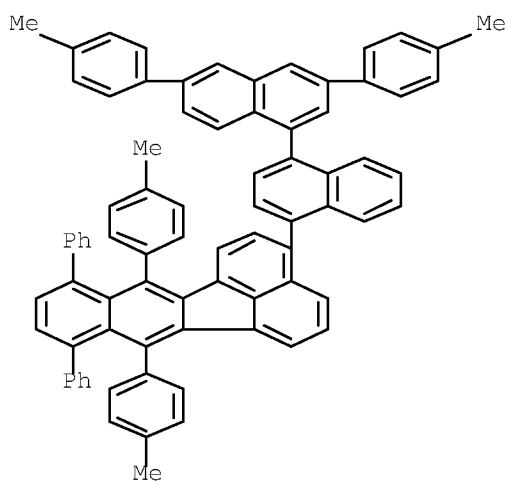


RN 390774-74-0 HCAPLUS

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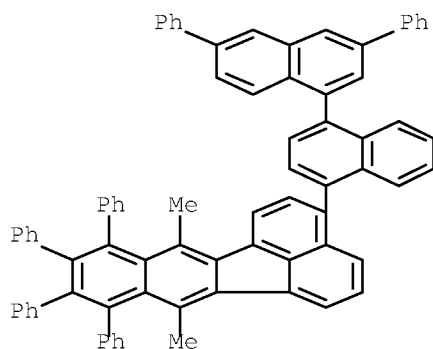
10/774,577

4-yl]-7,12-bis(4-methylphenyl)-8,11-diphenyl- (CA INDEX NAME)



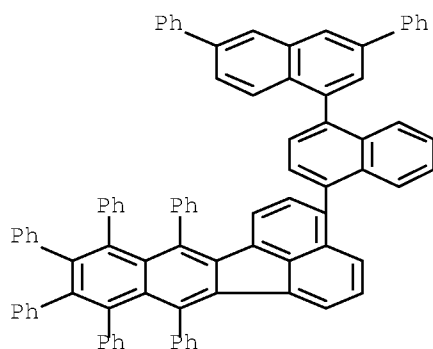
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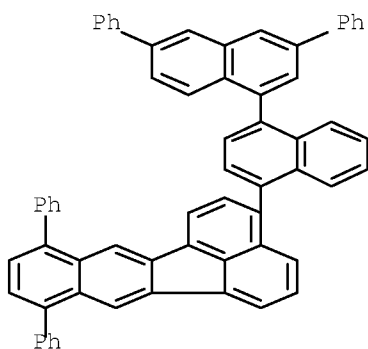


RN 390774-76-2 HCAPLUS

CN Benzo[k]fluoranthene, 3-(3',6'-diphenyl[1,1'-binaphthalen]-4-yl)-7,8,9,10,11,12-hexaphenyl- (CA INDEX NAME)



RN 390775-05-0 HCAPLUS  
 CN Benzo[k]fluoranthene, 3-(3',6'-diphenyl[1,1'-binaphthalen]-4-yl)-8,11-diphenyl- (CA INDEX NAME)



IC ICM H05B033-14  
 ICS C07C013-62; C07C025-22; C07C043-21; C09K011-06  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other  
 Related Properties)  
 Section cross-reference(s): 25, 74  
 IT 390774-44-4 390774-45-5 390774-46-6 390774-47-7  
 390774-48-8 390774-49-9 390774-50-2  
 390774-51-3 390774-52-4 390774-53-5  
 390774-54-6 390774-55-7 390774-56-8 390774-57-9  
 390774-58-0 390774-59-1 390774-60-4  
 390774-61-5 390774-62-6 390774-63-7  
 390774-64-8 390774-65-9 390774-66-0  
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 390774-70-6 390774-71-7 390774-72-8  
 390774-73-9 390774-74-0 390774-75-1  
 390774-76-2 390775-05-0  
 (organic EL devices containing dibenzo[kl,rst]benzo[6,7]fluoreno  
 [9,1,2-cde]pentaphene derivs. in emitter layers prepared from)

L37 ANSWER 36 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2001:790495 HCAPLUS Full-text  
 DOCUMENT NUMBER: 136:118174  
 TITLE: Glass-forming binaphthyl chromophores

AUTHOR(S): Ostrowski, Jacek C.; Hudack, Raymond A., Jr.; Robinson, Matthew R.; Wang, Shujun; Bazan, Guillermo C.

CORPORATE SOURCE: Departments of Chemistry and Materials, University of California, Santa Barbara, CA, 93106, USA

SOURCE: Chemistry--A European Journal (2001), 7(20), 4500-4511  
CODEN: CEUJED; ISSN: 0947-6539

PUBLISHER: Wiley-VCH Verlag GmbH

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 136:118174

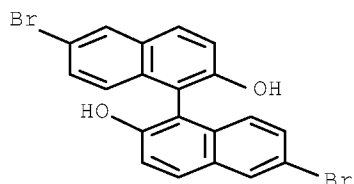
ED Entered STN: 31 Oct 2001

AB The use of the binaphthyl framework to synthesize glass-forming organic chromophores is described. Suzuki coupling reactions of racemic 6,6'-dibromo-2,2'-dialkoxy-1,1'-binaphthyl with 1,1'-diphenyl-2-(4-dihydroxyboronphenyl)-ethene using [Pd(dppf)Cl<sub>2</sub>] (dppf = 1,1'-bis(diphenylphosphino)ferrocene) as the catalyst provide a set of chromophores with the 4-(2,2'-diphenylvinyl)-1-Ph group at the 6- and 6'-positions and a range of groups on the O atom. Starting with enantiomerically enriched (R)-6,6'-dibromo-2,2'-dihexyloxy-1,1'-binaphthyl ((R)-2Hex), one can obtain (R)-3Hex. Heck coupling reactions of 6,6'-dibromo-2,2'-dialkoxy-1,1'-binaphthyl compds. with styrene provide chromophores of the type 2,2'-dialkoxy-1,1'-binaphthyl-6,6'-bis(2-phenylvinyl). Starting with enantiomerically enriched (R)-2Hex, one obtains (R)-4Hex. Mols. of the type 4 contain two 1-naphthyl-2-Ph ethylene chromophores with a pseudoorthogonal relation. Similar procedures can be used to obtain fragments with more extended conjugation length. Thus, the Heck coupling reaction of 2Hex with 4-(4'-tert-butylstyryl)styrene, 1-(4'-tert-butylstyryl)-4-(4'-vinylstyryl)-benzene, and 1-(3',5'-dihexyloxystyryl)-4-(4'-vinylstyryl)benzene provides 5Hex, 6Hex, and 7Hex, resp. DSC measurements and powder diffraction expts. indicate that the binaphthol chromophores show a resistance to crystallization. In some cases, considerably different thermal behavior is observed between enantiomerically enriched samples and their racemic counterparts. Increasing the size of the conjugated fragment on the binaphthol core leads to materials with higher glass-transition temps. and a less pronounced tendency to crystallize. Fluorescence spectroscopy gives evidence of excimer-type interactions in the solid state, except for the chromophores with 4-(2,2'-diphenylvinyl)-1-Ph groups. It is possible to obtain amorphous films of these chromophores directly from solution, and to fabricate light-emitting diodes, in which the electroluminescent layer corresponds to the binaphthyl chromophore.

IT 13185-00-7, 6,6'-Dibromo-2,2'-dihydroxy-1,1'-binaphthyl  
65283-60-5  
(alkylation; preparation, glass transition temperature, fluorescence and UV/vis spectra, and fabrication of light-emitting diodes containing electroluminescent binaphthyl chromophores)

RN 13185-00-7 HCAPLUS

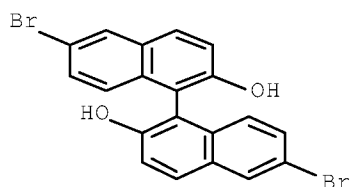
CN [1,1'-Binaphthalene]-2,2'-diol, 6,6'-dibromo- (CA INDEX NAME)



10/774,577

RN 65283-60-5 HCAPLUS

CN [1,1'-Binaphthalene]-2,2'-diol, 6,6'-dibromo-, (1R)- (CA INDEX NAME)



IT 74866-27-6 117745-41-2 117745-45-6  
138746-87-9 147650-21-3 163959-71-5  
389867-61-2 389867-63-4 389867-65-6

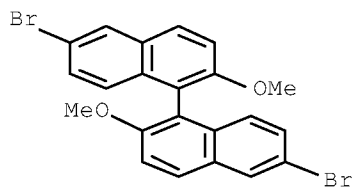
(coupling; preparation, glass transition temperature, fluorescence and

UV/vis

spectra, and fabrication of light-emitting  
diodes containing electroluminescent binaphthyl chromophores)

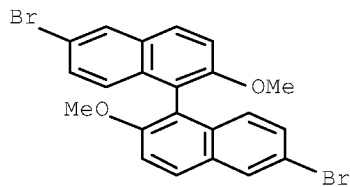
RN 74866-27-6 HCAPLUS

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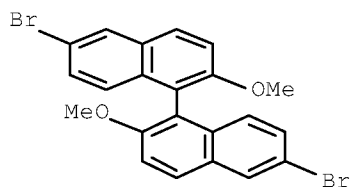
RN 117745-41-2 HCAPLUS

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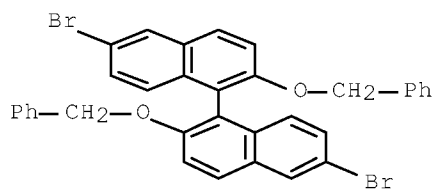
RN 117745-45-6 HCAPLUS

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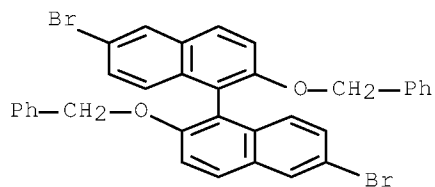
RN 138746-87-9 HCAPLUS

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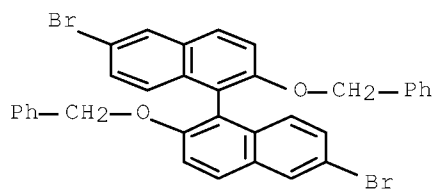
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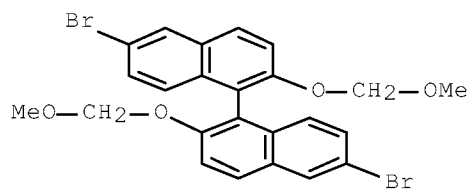
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CN 1,1'-Binaphthalene, 6,6'-dibromo-2,2'-bis(phenylmethoxy)-, (1S)- (9CI) (CA INDEX NAME)



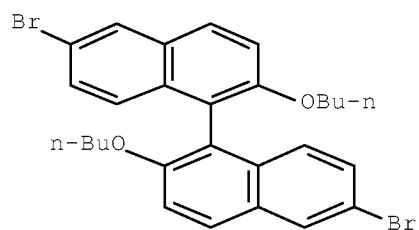
RN 389867-61-2 HCAPLUS

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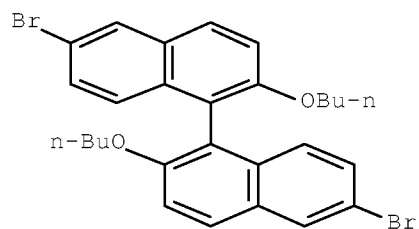
RN 389867-63-4 HCAPLUS

CN 1,1'-Binaphthalene, 6,6'-dibromo-2,2'-dibutoxy-, (1R)- (CA INDEX NAME)



RN 389867-65-6 HCAPLUS

CN 1,1'-Binaphthalene, 6,6'-dibromo-2,2'-dibutoxy-, (1S)- (9CI) (CA INDEX NAME)



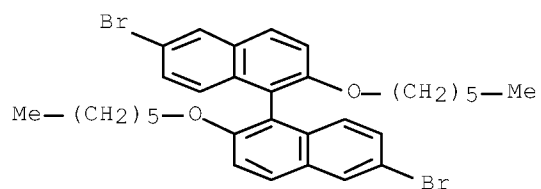
IT 172333-48-1P 191787-87-8P 256388-15-5P

(coupling; preparation, glass transition temperature, fluorescence and UV/vis spectra, and fabrication of light-emitting diodes containing electroluminescent binaphthyl chromophores)

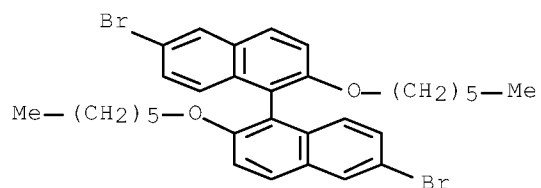
RN 172333-48-1 HCAPLUS

CN 1,1'-Binaphthalene, 6,6'-dibromo-2,2'-bis(hexyloxy)-, (1R)- (9CI) (CA INDEX NAME)

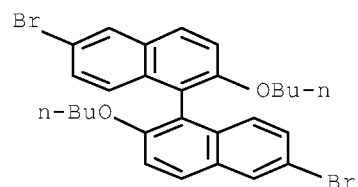
10/774,577



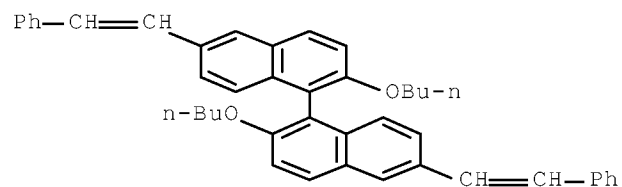
RN 191787-87-8 HCAPLUS  
 CN 1,1'-Binaphthalene, 6,6'-dibromo-2,2'-bis(hexyloxy)- (CA INDEX NAME)



RN 256388-15-5 HCAPLUS  
 CN 1,1'-Binaphthalene, 6,6'-dibromo-2,2'-dibutoxy- (CA INDEX NAME)



IT 389627-33-2  
 (preparation, glass transition temperature, fluorescence and UV/vis spectra,  
 and fabrication of light-emitting diodes containing  
 electroluminescent binaphthyl chromophores)  
 RN 389627-33-2 HCAPLUS  
 CN 1,1'-Binaphthalene, 2,2'-dibutoxy-6,6'-bis(2-phenylethenyl)- (CA INDEX NAME)



10/774,577

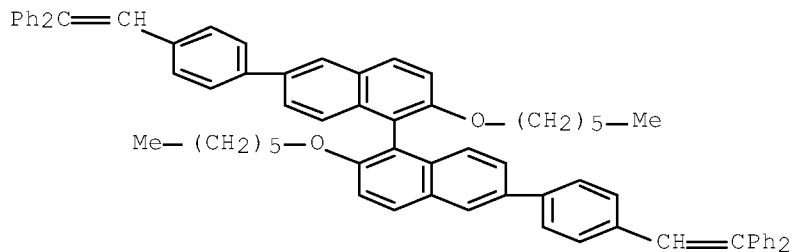
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 389627-17-2P 389627-18-3P 389627-22-9P  
 389867-60-1P 389867-64-5P 389867-66-7P  
 389867-70-3P

(preparation, glass transition temperature, fluorescence and UV/vis spectra,

and fabrication of light-emitting diodes containing electroluminescent binaphthyl chromophores)

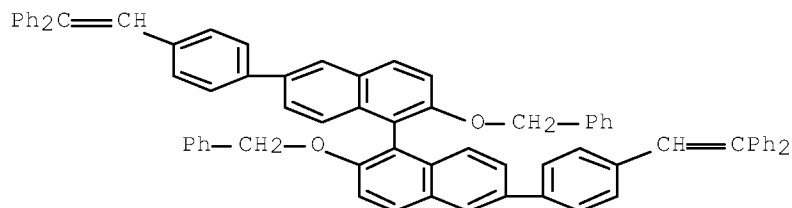
RN 389627-14-9 HCAPLUS

CN 1,1'-Binaphthalene, 6,6'-bis[4-(2,2-diphenylethenyl)phenyl]-2,2'-bis(hexyloxy)- (CA INDEX NAME)



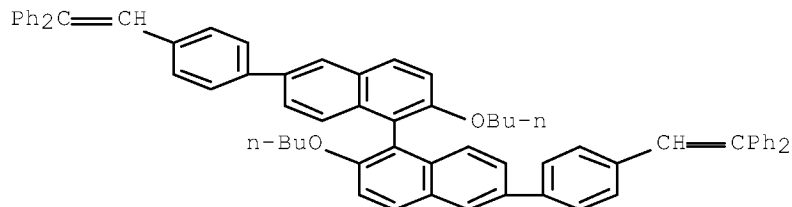
RN 389627-15-0 HCAPLUS

CN 1,1'-Binaphthalene, 6,6'-bis[4-(2,2-diphenylethenyl)phenyl]-2,2'-bis(phenylmethoxy)- (CA INDEX NAME)



RN 389627-16-1 HCAPLUS

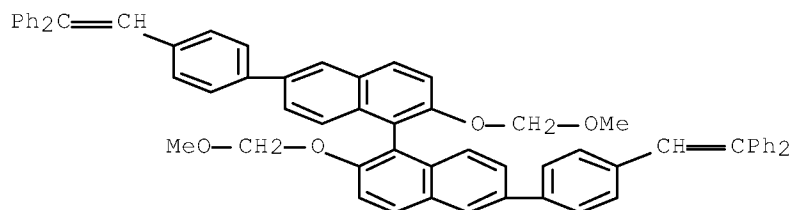
CN 1,1'-Binaphthalene, 2,2'-dibutoxy-6,6'-bis[4-(2,2-diphenylethenyl)phenyl]- (CA INDEX NAME)



RN 389627-17-2 HCAPLUS

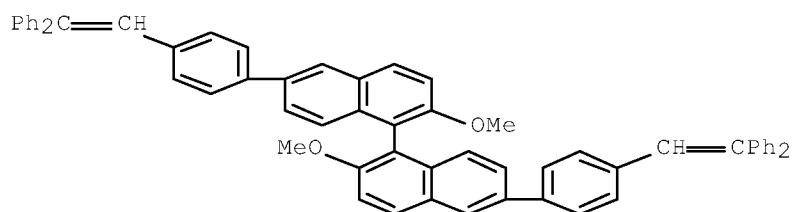
10/774,577

CN 1,1'-Binaphthalene, 6,6'-bis[4-(2,2-diphenylethenyl)phenyl]-2,2'-bis(methoxymethoxy)- (CA INDEX NAME)



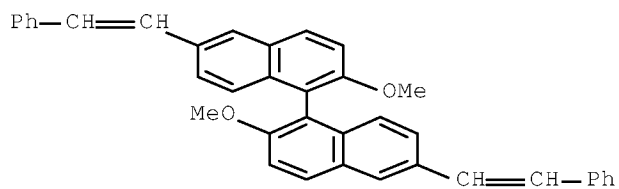
RN 389627-18-3 HCAPLUS

CN 1,1'-Binaphthalene, 6,6'-bis[4-(2,2-diphenylethenyl)phenyl]-2,2'-dimethoxy- (CA INDEX NAME)



RN 389627-22-9 HCAPLUS

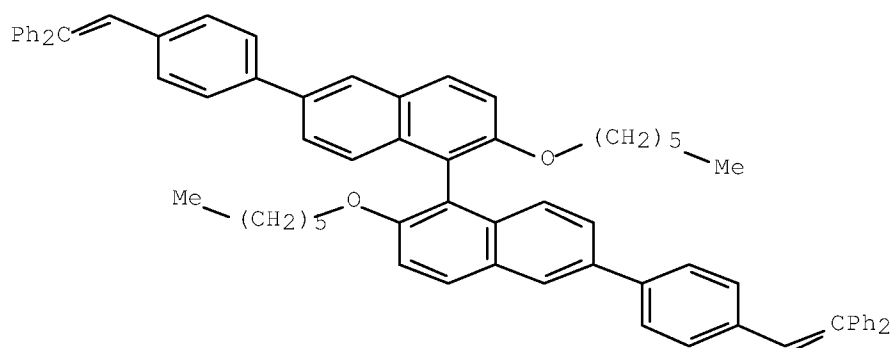
CN 1,1'-Binaphthalene, 2,2'-dimethoxy-6,6'-bis(2-phenylethenyl)- (CA INDEX NAME)



RN 389867-60-1 HCAPLUS

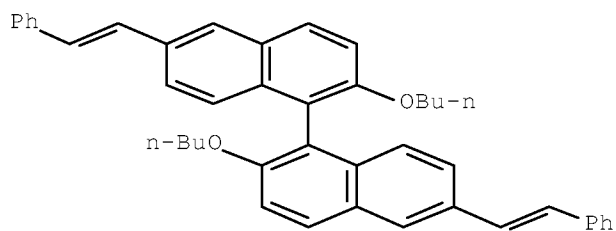
CN 1,1'-Binaphthalene, 6,6'-bis[4-(2,2-diphenylethenyl)phenyl]-2,2'-bis(hexyloxy)-, (1R)- (9CI) (CA INDEX NAME)

10/774,577



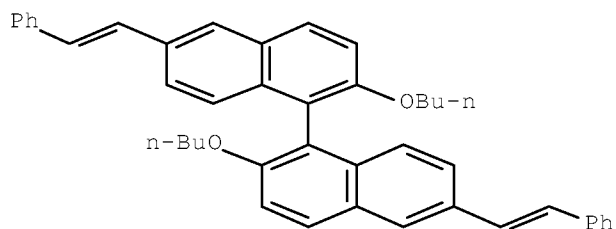
RN 389867-64-5 HCAPLUS

CN 1,1'-Binaphthalene, 2,2'-dibutoxy-6,6'-bis(2-phenylethenyl)-, (1R)-  
(9CI) (CA INDEX NAME)



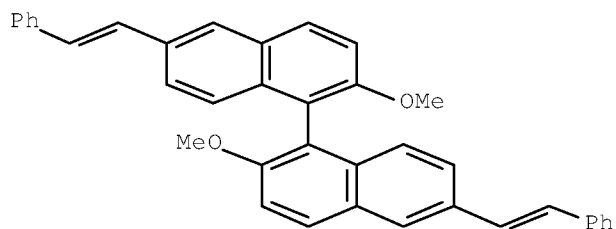
RN 389867-66-7 HCAPLUS

CN 1,1'-Binaphthalene, 2,2'-dibutoxy-6,6'-bis(2-phenylethenyl)-, (1S)-  
(9CI) (CA INDEX NAME)



RN 389867-70-3 HCAPLUS

CN 1,1'-Binaphthalene, 2,2'-dimethoxy-6,6'-bis(2-phenylethenyl)-, (1S)-  
(9CI) (CA INDEX NAME)

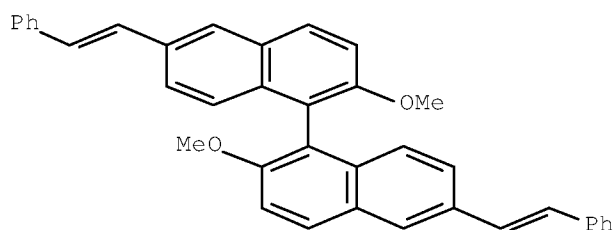


IT 389867-69-0P

(thermal racemization; preparation, glass transition temperature, fluorescence and UV/vis spectra, and fabrication of light-emitting diodes containing electroluminescent binaphthyl chromophores)

RN 389867-69-0 HCAPLUS

CN 1,1'-Binaphthalene, 2,2'-dimethoxy-6,6'-bis(2-phenylethenyl)-, (1R)- (9CI) (CA INDEX NAME)



CC 22-9 (Physical Organic Chemistry)

Section cross-reference(s): 65, 73

IT 109-65-9, 1-Bromobutane 111-25-1, 1-Bromohexane 13185-00-7  
 , 6,6'-Dibromo-2,2'-dihydroxy-1,1'-binaphthyl 15231-91-1,  
 6-Bromo-2-naphthol 65283-60-5

(alkylation; preparation, glass transition temperature, fluorescence and UV/vis spectra, and fabrication of light-emitting diodes containing electroluminescent binaphthyl chromophores)

IT 100-42-5, Styrene, reactions 74866-27-6 117745-41-2  
 117745-45-6 138746-87-9 147650-21-3  
 163959-71-5 201338-08-1 288105-04-4 338460-79-0  
 389627-19-4 389627-26-3 389867-61-2 389867-63-4  
 389867-65-6

(coupling; preparation, glass transition temperature, fluorescence and

UV/vis

spectra, and fabrication of light-emitting diodes containing electroluminescent binaphthyl chromophores)

IT 66217-21-8P 172333-48-1P 191787-87-8P  
 256388-15-5P

(coupling; preparation, glass transition temperature, fluorescence and

UV/vis

spectra, and fabrication of light-emitting diodes containing electroluminescent binaphthyl chromophores)

IT 389627-33-2 389627-34-3 389867-73-6

(preparation, glass transition temperature, fluorescence and UV/vis spectra,

and fabrication of light-emitting diodes containing electroluminescent binaphthyl chromophores)

IT 389627-14-9P 389627-15-0P 389627-16-1P  
389627-17-2P 389627-18-3P 389627-21-8P  
389627-22-9P 389627-29-6P 389627-31-0P  
389867-60-1P 389867-62-3P 389867-64-5P  
389867-66-7P 389867-67-8P 389867-68-9P  
389867-70-3P 389867-71-4P 389867-72-5P

(preparation, glass transition temperature, fluorescence and UV/vis spectra,

and fabrication of light-emitting diodes containing electroluminescent binaphthyl chromophores)

IT 389867-69-0P

(thermal racemization; preparation, glass transition temperature, fluorescence

and UV/vis spectra, and fabrication of light-emitting diodes containing electroluminescent binaphthyl chromophores)

REFERENCE COUNT: 65 THERE ARE 65 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 37 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2001:718161 HCAPLUS Full-text

DOCUMENT NUMBER: 135:280224

TITLE: Thermosensitive fluorescent material and thermal recording media, organic electroluminescent component and temperature marker

INVENTOR(S): Kita, Hiroshi; Yamada, Taketoshi

PATENT ASSIGNEE(S): Konica Co., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 28 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 2001271061	A	20011002	JP 2000-86224	20000327
			<--	
JP 3855587	B2	20061213		
PRIORITY APPLN. INFO.:			JP 2000-86224	20000327
			<--	

ED Entered STN: 02 Oct 2001

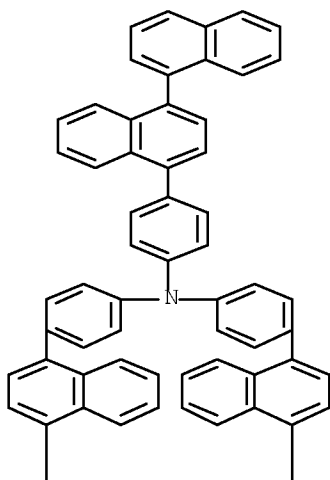
AB The invention refers to a thermosensitive fluorescent material, suitable for use in thermal recordings, electroluminescent components and temperature markers, wherein reversible isomerization takes place via laser heating and changes the fluorescent wavelength.

IT 278601-15-3P

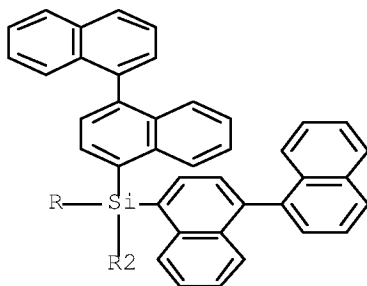
(thermosensitive fluorescent material and thermal recording media, organic electroluminescent component and temperature marker)

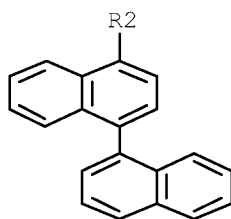
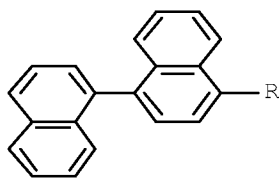
RN 278601-15-3 HCAPLUS

CN Benzenamine, 4-[1,1'-binaphthalen]-4-yl-N,N-bis(4-[1,1'-binaphthalen]-4-ylphenyl)- (CA INDEX NAME)

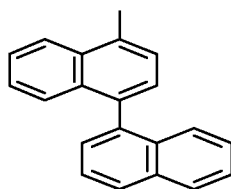
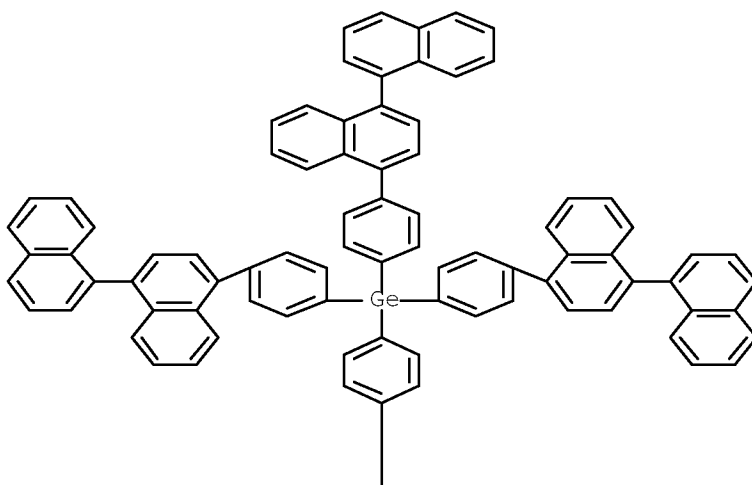


IT 363607-72-1 363607-74-3  
 (thermosensitive fluorescent material and thermal recording media,  
 organic electroluminescent component and temperature marker)  
 RN 363607-72-1 HCAPLUS  
 CN Silane, tetrakis([1,1'-binaphthalen]-4-yl)- (9CI) (CA INDEX NAME)

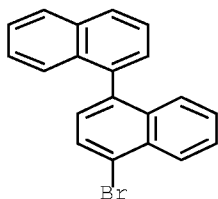




RN 363607-74-3 HCAPLUS  
CN Germane, tetrakis(4-[1,1'-binaphthalen]-4-ylphenyl)- (CA INDEX NAME)



IT 49610-33-5P  
 (thermosensitive fluorescent material and thermal recording media,  
 organic electroluminescent component and temperature marker)  
 RN 49610-33-5 HCAPLUS  
 CN 1,1'-Binaphthalene, 4-bromo- (CA INDEX NAME)



IC ICM C09K011-06  
 ICS C09K011-06; B41M005-26; C07C211-54; G01N021-66; G11B007-24  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other  
 Related Properties)  
 IT 278601-15-3P  
 (thermosensitive fluorescent material and thermal recording media,  
 organic electroluminescent component and temperature marker)  
 IT 92-52-4, 1,1'-Biphenyl, reactions 121-43-7, Trimethoxy boron  
 603-34-9, Triphenyl amine 4316-58-9 7726-95-6, Bromine molecule  
 Br2, reactions 9011-14-7, Polymethylmethacrylate 26979-27-1  
 363607-70-9 363607-71-0 363607-72-1 363607-74-3  
 (thermosensitive fluorescent material and thermal recording media,  
 organic electroluminescent component and temperature marker)  
 IT 49610-33-5P 363607-69-6P  
 (thermosensitive fluorescent material and thermal recording media,  
 organic electroluminescent component and temperature marker)

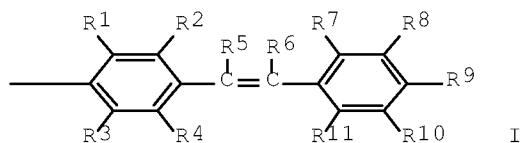
L37 ANSWER 38 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2001:582282 HCAPLUS Full-text  
 DOCUMENT NUMBER: 135:160005  
 TITLE: Organic electroluminescent device  
 INVENTOR(S): Ishikawa, Hitoshi; Toguchi, Satoru; Tada, Hiroshi;  
 Morioka, Yukiko; Oda, Atsushi  
 PATENT ASSIGNEE(S): Samsung SDI Co., Ltd., Japan  
 SOURCE: U.S. Pat. Appl. Publ., 40 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
US 20010012571	A1	20010809	US 2000-729195	20001205
			<--	
US 6821644	B2	20041123		
JP 2001237076	A	20010831	JP 2000-343560	20001110
			<--	
JP 3625764	B2	20050302		

10/774,577

JP 2001237077	A	20010831	JP 2000-343561	20001110
			<--	
JP 3581309	B2	20041027		
PRIORITY APPLN. INFO.:			JP 1999-356685	A 19991215
			<--	
			JP 1999-356686	A 19991215
			<--	
			JP 2000-343560	A 20001110
			<--	
			JP 2000-343561	A 20001110
			<--	

OTHER SOURCE(S):           MARPAT 135:160005  
ED   Entered STN:   10 Aug 2001  
GI

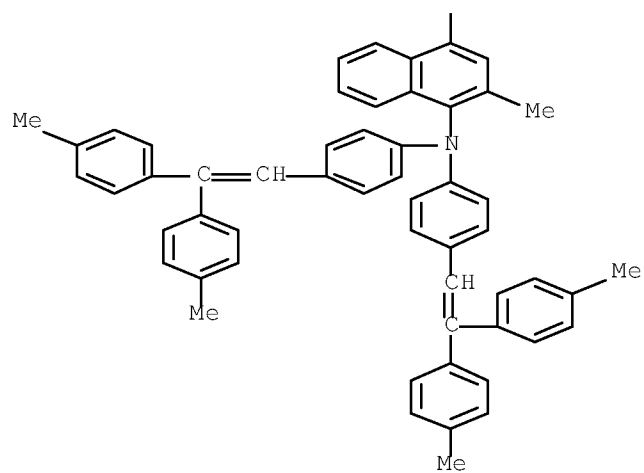
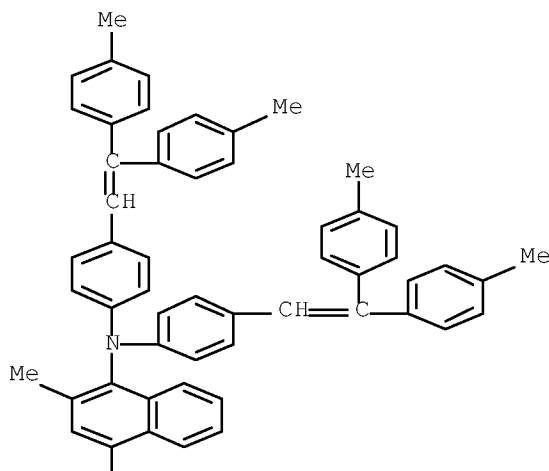


AB   Organic electroluminescent devices are described which employ bis(diarylamino)arylene compds. are described by the general formula (Ar3)(Ar2)N-Ar1-N(Ar4)(Ar5) (Ar1 = C5-42 (un)substituted arylene group; ≥1 of Ar2-5 = I, with the remaining groups = C6-20 aryl groups, with ≥1 of Ar2-5 comprising ≥1 hudrocarbon group that may include O atoms; Ar2 and Ar3 or Ar4 and Ar5 may bond to form a ring; R1-11 = H, halo, OH, (un)substituted amino, cyano, nitro, (un)substituted alkyl, (un)substituted alkenyl, (un)substituted cycloalkyl, (un)substituted alkoxy, (un)substituted aromatic hydrocarbon, (un)substituted aromatic heterocyclic, (un)substituted aralkyl, (un)substituted aryloxy, (un)substituted alkoxycarbonyl, or carbonyl; and two of R1-11 may bond to form a ring).

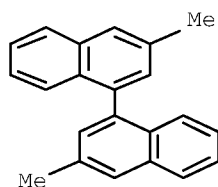
IT   353254-05-4P  
      (organic electroluminescent devices employing  
      bis(diarylamino)arylene derivs.)

RN   353254-05-4   HCAPLUS

CN   [1,1'-Binaphthalene]-4,4'-diamine, N,N,N',N'-tetrakis[4-[2,2-bis(4-methylphenyl)ethenyl]phenyl]-3,3'-dimethyl- (9CI)   (CA INDEX NAME)

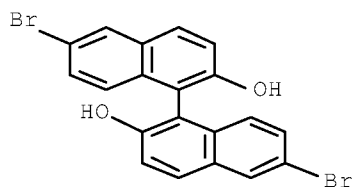


IT 34042-82-5  
 (organic electroluminescent devices employing  
 bis(diarylamino)arylene derivs.)  
 RN 34042-82-5 HCAPLUS  
 CN 1,1'-Binaphthalene, 3,3'-dimethyl- (CA INDEX NAME)

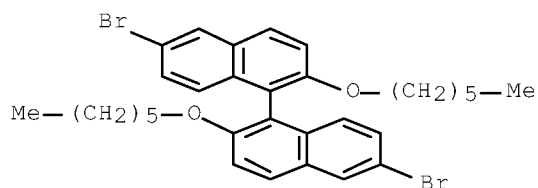


IC ICM H05B033-14  
 INCL 428690000  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other  
 Related Properties)  
 Section cross-reference(s): 25, 76  
 IT 353254-05-4P  
 (organic electroluminescent devices employing  
 bis(diarylamino)arylene derivs.)  
 IT 626-39-1, 1,3,5-Tribromobenzene 693-04-9, n-Butylmagnesium chloride  
 917-64-6, Methylmagnesium iodide 19930-62-2, 1,4-Dibromo-2,3-  
 dimethylnaphthalene 34042-82-5 62856-31-9 114889-49-5  
 (organic electroluminescent devices employing  
 bis(diarylamino)arylene derivs.)  
 REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR  
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
 RE FORMAT

L37 ANSWER 39 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2001:376203 HCAPLUS Full-text  
 DOCUMENT NUMBER: 135:138033  
 TITLE: Synthesis and characterization of a luminescent  
 binaphthyl-based polymer  
 AUTHOR(S): Wu, X.; Liu, Y.; Zhu, D.  
 CORPORATE SOURCE: Center for Molecular Science, Institute of  
 Chemistry, Chinese Academy of Science, Beijing,  
 100080, Peop. Rep. China  
 SOURCE: Synthetic Metals (2001), 121(1-3),  
 1699-1700  
 CODEN: SYMEDZ; ISSN: 0379-6779  
 PUBLISHER: Elsevier Science S.A.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 ED Entered STN: 25 May 2001  
 AB A new luminescence conjugated polymer containing binaphthyl moiety was  
 synthesized by Suzuki coupling reaction. It was characterized by <sup>1</sup>H NMR, FT-  
 IR, element anal., GPC, DSC and TGA. The polymer possesses excellent thermal  
 stability (T<sub>g</sub> = 287.5°C), and good solubility in organic solvents. A blue  
 emission was observed from its thin solid film under irradiation of UV light.  
 IT 13185-00-7P 191787-87-8P  
 (synthesis and characterization of luminescent  
 binaphthyl-based polymer)  
 RN 13185-00-7 HCAPLUS  
 CN [1,1'-Binaphthalene]-2,2'-diol, 6,6'-dibromo- (CA INDEX NAME)



RN 191787-87-8 HCAPLUS  
 CN 1,1'-Binaphthalene, 6,6'-dibromo-2,2'-bis(hexyloxy)- (CA INDEX NAME)



CC 37-3 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 73  
 IT 13185-00-7P 14753-51-6P 128424-36-2P 171089-85-3P  
 191787-87-8P

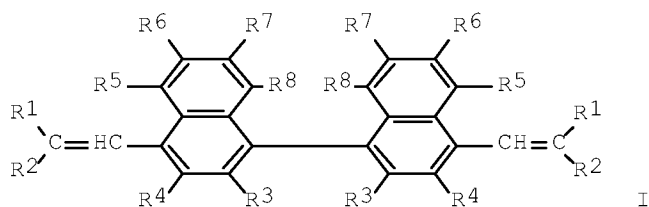
(synthesis and characterization of luminescent  
 binaphthyl-based polymer)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR  
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
 RE FORMAT

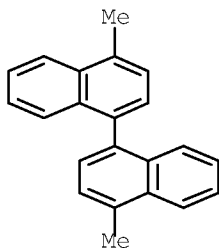
L37 ANSWER 40 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2000:833268 HCAPLUS Full-text  
 DOCUMENT NUMBER: 134:11324  
 TITLE: Preparation of distyrylarylene derivatives and  
 organic electroluminescent devices  
 INVENTOR(S): Kawase, Tokutaka; Fujita, Yoshimasa; Kido, Junji  
 PATENT ASSIGNEE(S): Sharp Corp., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000327598	A	20001128	JP 2000-46240	20000223
			<--	
PRIORITY APPLN. INFO.:			JP 1999-72250	A 19990317
			<--	

OTHER SOURCE(S): MARPAT 134:11324  
 ED Entered STN: 29 Nov 2000  
 GI



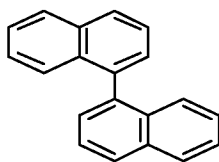
- AB 4,4'-Distyryl-1,1'-binaphthyl derivs. (I; R1, R2 = H, C1-6 alkyl, (un)substituted C6-20 aryl or aromatic heterocyclcyl; R3 - R8 = H, halo, C1-6 alkyl, C1-6 alkoxy, HO) are prepared An organic electroluminescent device comprises an anode, at least one organic layer, and a cathode layer which are laminated on a substrate in this order, and the organic layer consists of at least one layer selected from an hole injection layer and a hole transport layer, an luminescent layer, and an electron injection layer, wherein at least one of the organic layer, in particular the luminescent layer, contains I. This organic electroluminescent device can attain low voltage drive, any desired luminous color, large luminous brightness, and superior luminous life and stability in repeated usage. Thus, a solution of potassium tert-butoxide and di-Et diphenylmethylphosphonate in DMF was added dropwise to a solution of 4,4'-diformyl-1,1'-binaphthyl in DMF and stirred at room temperature for 10 h to give 26.5% 4,4'-bis(2,2- diphenylvinyl)-1,1'-binaphthyl (II). An organic electroluminescent device with a hole transport layer of N,N'-diphenyl-N,N'-bis(1- naphthyl)-1,1'-diphenyl-4,4'-diamine, a luminous layer of II, an electron injection layer of aluminum tris(8-quinolinolate), and a Ag/Mg cathode layer being vapor-deposited on an ITO transparent substrate in this order exhibited green luminescence with luminance of 1,080 cd/m2 at 26 V and 320 mA/cm2.
- IT 19224-41-0P, 4,4'-Dimethyl-1,1'-binaphthyl  
(preparation of distyrylarylene derivs. and organic  
electroluminescent devices)
- RN 19224-41-0 HCAPLUS
- CN 1,1'-Binaphthalene, 4,4'-dimethyl- (CA INDEX NAME)



- IC ICM C07C015-58  
ICS C09K011-06; H05B033-14; H05B033-22
- CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other  
Related Properties)
- IT 19224-41-0P, 4,4'-Dimethyl-1,1'-binaphthyl 128923-90-0P,  
4,4'-Di(bromomethyl)-1,1'-binaphthyl 308140-60-5P,  
4,4'-Diformyl-1,1'-binaphthyl 308140-61-6P  
(preparation of distyrylarylene derivs. and organic

electroluminescent devices)

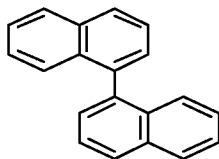
L37 ANSWER 41 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2000:819794 HCAPLUS Full-text  
 DOCUMENT NUMBER: 134:71918  
 TITLE: Synthesis and application of chiral conjugated polymers and dendrimers  
 AUTHOR(S): Pu, Lin  
 CORPORATE SOURCE: Department of Chemistry, University of Virginia, Charlottesville, VA, 22901, USA  
 SOURCE: Materials Research Society Symposium Proceedings (2000), 598(Electrical, Optical, and Magnetic Properties of Organic Solid-State Materials V), BB5.3/1-BB5.3/4  
 CODEN: MRSPDH; ISSN: 0272-9172  
 PUBLISHER: Materials Research Society  
 DOCUMENT TYPE: Journal; General Review  
 LANGUAGE: English  
 ED Entered STN: 22 Nov 2000  
 AB A review with 11 refs. 1,1'-Binaphthyl-based chiral polymers and dendrimers have been synthesized and their potential applications have been explored. These materials have shown a variety of interesting properties such as electroluminescence, optical nonlinearity, enantioselective catalysis and chiral sensing.  
 IT 604-53-5DP, 1,1'-Binaphthyl, derivs., polymers (synthesis and application of chiral conjugated polymers and dendrimers)  
 RN 604-53-5 HCAPLUS  
 CN 1,1'-Binaphthalene (CA INDEX NAME)



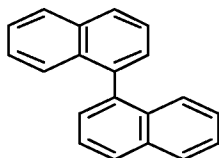
CC 35-0 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): 36, 73, 76  
 ST binaphthyl chiral dendrimer synthesis electroluminescence  
 nonlinear optical property review  
 IT luminescence, electroluminescence  
 Nonlinear optical susceptibility  
 (second-order; synthesis and application of chiral conjugated polymers and dendrimers)  
 IT 604-53-5DP, 1,1'-Binaphthyl, derivs., polymers (synthesis and application of chiral conjugated polymers and dendrimers)  
 REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 42 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2000:655691 HCAPLUS Full-text  
 DOCUMENT NUMBER: 133:335470

TITLE: Novel chiral conjugated macromolecules for potential electrical and optical applications  
 AUTHOR(S): Pu, Lin  
 CORPORATE SOURCE: Department of Chemistry, University of Virginia, Charlottesville, VA, 22901, USA  
 SOURCE: Macromolecular Rapid Communications (2000), 21(12), 795-809  
 CODEN: MRCOE3; ISSN: 1022-1336  
 PUBLISHER: Wiley-VCH Verlag GmbH  
 DOCUMENT TYPE: Journal; General Review  
 LANGUAGE: English  
 ED Entered STN: 20 Sep 2000  
 AB A review, with 75 refs., on optically active 1,1'-binaphthyl mols. as the basis of chiral dendrimers and linear polymers, e.g., polyacetylenes, poly(arylene ethynylene)s, binaphthyl conjugated polymers with crown ether receptors, binaphthyl-polythiophenes, propeller-like binaphthyl polymers with alkylamino donors, etc. The dendrimers show efficient light harvesting effects and enantioselective fluorescence response in the presence of chiral amino alc. quenchers. The dendrimers are potentially useful as fluorescent sensors for recognition of chiral organic compds. Linear binaphthyl polymers show strong light emitting properties and colors of emission can be systematically tuned by incorporating linkers of various conjugation length. Efficient light emitting diodes can be fabricated using binaphthyl-based conjugated polymers. Nonlinear optical chromophores organize in the chiral binaphthyl polymer chains to construct noncentrosym. and multipolar materials. These novel propeller-like polymers have shown significant second-order nonlinear optical effects.  
 IT 604-53-5D, 1,1'-Binaphthyl, polymers  
 (chiral conjugated dendrimers and polymers based on binaphthyl derivs. for fluorescent sensors for chiral recognition and for LEDs)  
 RN 604-53-5 HCAPLUS  
 CN 1,1'-Binaphthalene (CA INDEX NAME)



IT 604-53-5, 1,1'-Binaphthyl  
 (core; chiral conjugated dendrimers and polymers based on binaphthyl derivs. for fluorescent sensors for chiral recognition and for LEDs)  
 RN 604-53-5 HCAPLUS  
 CN 1,1'-Binaphthalene (CA INDEX NAME)



- CC 35-0 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 36, 73
- IT Dendritic polymers  
(binaphthyl-based; chiral conjugated dendrimers and polymers based on binaphthyl derivs. for fluorescent sensors for chiral recognition and for LEDs)
- IT Chiral recognition  
Fluorescence  
Nonlinear optical materials  
Polymer chains  
(chiral conjugated dendrimers and polymers based on binaphthyl derivs. for fluorescent sensors for chiral recognition and for LEDs)
- IT Polymers, properties  
(conjugated, binaphthyl-containing; chiral conjugated dendrimers and polymers based on binaphthyl derivs. for fluorescent sensors for chiral recognition and for LEDs)
- IT Polyacetylenes, properties  
(polyarylene-, binaphthyl-containing; chiral conjugated dendrimers and polymers based on binaphthyl derivs. for fluorescent sensors for chiral recognition and for LEDs)
- IT Polymers, properties  
(polythiophenes, binaphthyl-containing; chiral conjugated dendrimers and polymers based on binaphthyl derivs. for fluorescent sensors for chiral recognition and for LEDs)
- IT 604-53-5D, 1,1'-Binaphthyl, polymers  
(chiral conjugated dendrimers and polymers based on binaphthyl derivs. for fluorescent sensors for chiral recognition and for LEDs)
- IT 604-53-5, 1,1'-Binaphthyl  
(core; chiral conjugated dendrimers and polymers based on binaphthyl derivs. for fluorescent sensors for chiral recognition and for LEDs)

REFERENCE COUNT: 75 THERE ARE 75 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 43 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 2000:511898 HCAPLUS Full-text  
DOCUMENT NUMBER: 133:142424  
TITLE: Organic electroluminescence devices and manufacture  
INVENTOR(S): Azuma, Hisahiro; Sakai, Toshio; Fukuoka, Kenichi; Hosokawa, Chishio  
PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 43 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

## PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE -----
JP 2000208264	A	20000728	JP 1999-10659	19990119
			<--	
JP 3983405	B2	20070926		
JP 2007281501	A	20071025	JP 2007-146623	20070601
			<--	

PRIORITY APPLN. INFO.:	JP 1999-10659	A3 19990119
	<--	

OTHER SOURCE(S): MARPAT 133:142424

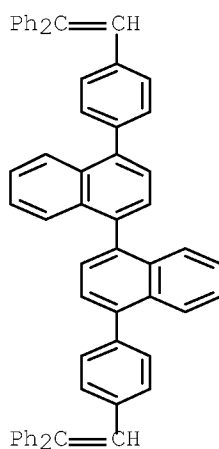
ED Entered STN: 28 Jul 2000

AB The devices comprise a phosphor and/or a crystallization inhibitor (energy gaps Eg1 and Eg2, resp.) containing XYC:HCArCH:CXY (X, Y = C6-50 aryl; C3-50 monovalent heterocyclic; Ar = C6-80 arylene; divalent triphenylamine; C3-80 divalent heterocyclic), where Eg1 > Eg2 - 0.1 eV.

IT 186412-20-4  
(organic electroluminescence devices and manufacture)

RN 186412-20-4 HCAPLUS

CN 1,1'-Binaphthalene, 4,4'-bis[4-(2,2-diphenylethenyl)phenyl]- (CA  
INDEX NAME)



IC ICM H05B033-14

ICS C09K011-06; H05B033-10

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other  
Related Properties)

IT 2085-33-8, Tris(8-quinolinolato)aluminum 123847-85-8 124729-98-2  
125643-81-4 142289-08-5 144810-08-2 186259-51-8 186412-15-7  
186412-19-1 186412-20-4 213527-39-0 286369-15-1  
286369-16-2 286369-17-3 286369-18-4 286369-19-5  
(organic electroluminescence devices and manufacture)

L37 ANSWER 44 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2000:462259 HCAPLUS Full-text

DOCUMENT NUMBER: 133:273893

TITLE: Interface and material considerations of OLEDs

AUTHOR(S): Sato, Yoshiharu; Ogata, Tomoyuki; Ichinosawa,

10/774,577

CORPORATE SOURCE: Shouko; Fugono, Masayo; Kanai, Hiroyuki  
Yokohama Research Ctr., Mitsubishi Chemical Corp.,  
Yokohama, Japan

SOURCE: Proceedings of SPIE-The International Society for  
Optical Engineering (1999), 3797(Organic  
Light-Emitting Materials and Devices III), 198-208  
CODEN: PSISDG; ISSN: 0277-786X

PUBLISHER: SPIE-The International Society for Optical  
Engineering

DOCUMENT TYPE: Journal

LANGUAGE: English

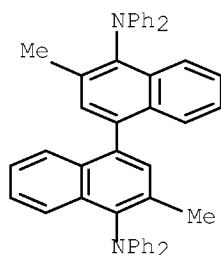
ED Entered STN: 10 Jul 2000

AB Three interfaces, anode interface, hole blocking layer and cathode interface  
were considered mainly from the viewpoint of materials. Vinyl polymers  
containing triphenylamine as a side group were studied as an ITO buffer layer.  
When these polymers were doped with strong acceptor, they lowered operation  
voltage of OLED and also improved the thermal stability. Employment of high  
Tg hole transport material was also found effective for the thermally stable  
EL characteristics. Hole blocking material with a wider optical gap improved  
color purity of blue-emitting device. Various inorg. compds. were examined as  
a cathode interface layer to demonstrate that MgF2 was effective to improve  
operation lifetime of OLED.

IT 227939-54-0  
(interface and material considerations of OLEDs)

RN 227939-54-0 HCAPLUS

CN [1,1'-Binaphthalene]-4,4'-diamine, 3,3'-dimethyl-N,N,N',N'-tetraphenyl-  
(9CI) (CA INDEX NAME)



CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other  
Related Properties)

IT 84-58-2, 2,3-Dichloro-5,6-dicyano-1,4-benzoquinone 7681-49-4, Sodium  
fluoride, properties 7783-40-6, Magnesium fluoride 7783-49-5, Zinc  
fluoride 7784-18-1, Aluminum fluoride 7789-24-4, Lithium fluoride,  
properties 7789-75-5, Calcium fluoride, properties 13775-53-6  
24964-91-8, Tris(4-bromophenyl)aminium hexachloroantimonate  
37271-44-6 65181-78-4, TPD 74065-49-9 78099-29-3 123847-85-8,  
 $\alpha$ -NPD 131852-82-9 157077-25-3 182507-83-1  
227939-54-0 298706-32-8 298706-33-9  
(interface and material considerations of OLEDs)

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR  
THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
RE FORMAT

L37 ANSWER 45 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 2000:457176 HCAPLUS Full-text

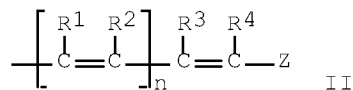
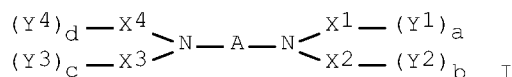
DOCUMENT NUMBER: 133:81385  
 TITLE: Organic electroluminescent devices  
 INVENTOR(S): Hosokawa, Chishio; Funehashi, Masakazu; Kawamura, Hisayuki; Arai, Hiromasa; Koga, Hidetoshi; Ikeda, Hidetsugu  
 PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan  
 SOURCE: PCT Int. Appl., 167 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000039247	A1	20000706	WO 1999-JP7390	19991228
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W: CN, KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
JP 2001052868	A	20010223	JP 1999-223056	19990805
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JP 2001131541	A	20010515	JP 1999-347848	19991207
<--				
EP 1061112	A1	20001220	EP 1999-961465	19991228
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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
CN 1721499	A	20060118	CN 2005-10084528	19991228
<--				
EP 1666561	A1	20060607	EP 2006-110875	19991228
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R: DE, FR, GB				
EP 1775335	A2	20070418	EP 2007-100259	19991228
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EP 1775335	A3	20080227		
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, MK, YU				
US 6743948	B1	20040601	US 2000-623057	20000825
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US 20030072966	A1	20030417	US 2002-179179	20020626
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US 6951693	B2	20051004		
US 20050038296	A1	20050217	US 2004-814121	20040401
<--				
US 20060189828	A1	20060824	US 2006-344604	20060201
<--				
KR 743337	B1	20070726	KR 2006-718289	20060907
<--				
US 20070142671	A1	20070621	US 2007-624255	20070118
<--				
KR 2007032047	A	20070320	KR 2007-702875	20070205
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KR 785570	B1	20071213		
KR 2007112893	A	20071127	KR 2007-725201	20071030
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PRIORITY APPLN. INFO.:			JP 1998-373921	A 19981228
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			JP 1999-140103	A 19990520

10/774,577

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 JP 1999-223056 A 19990805  
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 JP 1999-234652 A 19990820  
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 JP 1999-347848 A 19991207  
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 CN 1999-803419 A3 19991228  
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 EP 1999-961465 A3 19991228  
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 WO 1999-JP7390 W 19991228  
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 US 2000-623057 A3 20000825  
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 US 2004-814121 B1 20040401  
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 US 2006-344604 B1 20060201  
 KR 2006-707392 A3 20060417  
 KR 2006-718289 A3 20060907  
 KR 2007-713672 A3 20070615

OTHER SOURCE(S): MARPAT 133:81385  
 ED Entered STN: 07 Jul 2000  
 GI

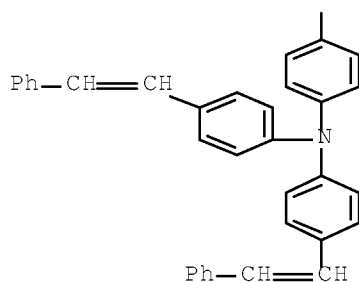
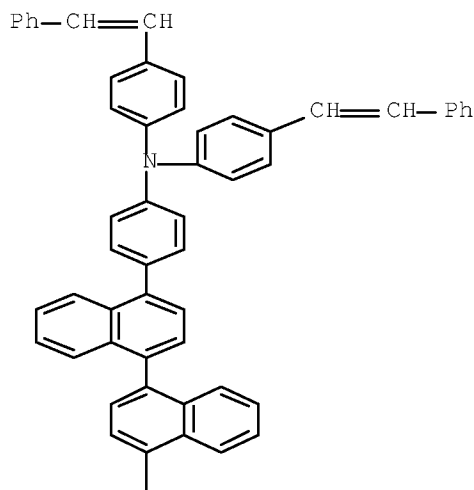


AB The devices having a high luminescent efficiency, a long life and a high heat resistance comprise I ( A = (substituted) C22-60 arylene; X1-4 = (substituted) C6-30 arylene; Y1-4 = II; a-d = 0-2; R1-4 = H, (substituted) alkyl, (substituted) aryl, cyano; R3 may be bonded to R4 to form a triple bond; Z = (substituted) aryl; n = 0, 1).

IT 279671-56-6  
 (organic electroluminescent devices)

RN 279671-56-6 HCAPLUS

CN Benzenamine, 4,4'-[1,1'-binaphthalene]-4,4'-diylbis[N,N-bis[4-(2-phenylethenyl)phenyl]- (9CI) (CA INDEX NAME)



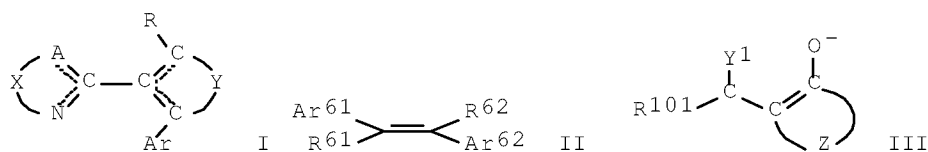
IC ICM C09K011-06  
 ICS C07C211-54; C07C211-58; C07C209-10; B01J031-24; H05B033-14  
 CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other  
 Related Properties)  
 IT 2085-33-8, Tris(8-quinolinolato)aluminum 12789-79-6 50926-11-9,  
 ITO 65181-78-4, TPD 142289-08-5, 4,4'-Bis(2,2-  
 diphenylvinyl)biphenyl 177799-11-0 181367-28-2 186412-15-7  
 205930-46-7 221453-38-9 226086-76-6 239475-90-2 279671-24-8  
 279671-53-3 279671-54-4 ~~279671-56-6~~ 279671-57-7  
 279672-13-8 279672-14-9 279672-15-0 279672-16-1 279672-17-2  
 279672-18-3 279672-19-4 279672-20-7 279672-21-8 279672-22-9  
 279672-23-0 279672-24-1 279672-25-2 279672-27-4 279672-30-9  
 279672-32-1 279672-34-3 279672-35-4 279672-37-6 279672-39-8  
 279672-41-2 279672-42-3 279672-43-4 279672-44-5 279672-45-6  
 279672-46-7 279672-47-8 279672-48-9 279672-49-0 279672-50-3  
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 279672-56-9 279672-57-0 279672-58-1  
 (organic electroluminescent devices)  
 REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR  
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE

## RE FORMAT

L37 ANSWER 46 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2000:441449 HCAPLUS Full-text  
 DOCUMENT NUMBER: 133:81409  
 TITLE: Electroluminescent material, electroluminescent  
 element and color conversion filter  
 INVENTOR(S): Kita, Hiroshi; Suzuri, Yoshiyuki; Yamada,  
 Taketoshi; Nakamura, Kazuaki; Ueda, Noriko; Okubo,  
 Yasushi  
 PATENT ASSIGNEE(S): Konica Corporation, Japan  
 SOURCE: Eur. Pat. Appl., 80 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1013740	A2	20000628	EP 1999-125813	19991223
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EP 1013740	A3	20020130		
EP 1013740	B1	20061011		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
EP 1731585	A2	20061213	EP 2006-119379	19991223
			<--	
EP 1731585	A3	20070314		
R: DE, FR, GB, NL				
EP 1731586	A2	20061213	EP 2006-119382	19991223
			<--	
EP 1731586	A3	20070321		
R: DE, FR, GB, NL				
EP 1764401	A1	20070321	EP 2006-119376	19991223
			<--	
R: DE, FR, GB, NL				
JP 2001143869	A	20010525	JP 1999-365996	19991224
			<--	
JP 3968933	B2	20070829		
US 20070020485	A1	20070125	US 2006-493108	20060726
			<--	
JP 2007177252	A	20070712	JP 2007-19223	20070130
			<--	
PRIORITY APPLN. INFO.:			JP 1998-370452	A 19981225
			<--	
			JP 1999-246404	A 19990831
			<--	
			US 1999-466949	A3 19991220
			<--	
			EP 1999-125813	A3 19991223
			<--	
			JP 1999-365996	A3 19991224
			<--	
			KR 1999-61534	A 19991224
			<--	
			US 2003-653842	B2 20030902
			<--	
OTHER SOURCE(S):		MARPAT 133:81409		
ED Entered STN:		30 Jun 2000		

GI



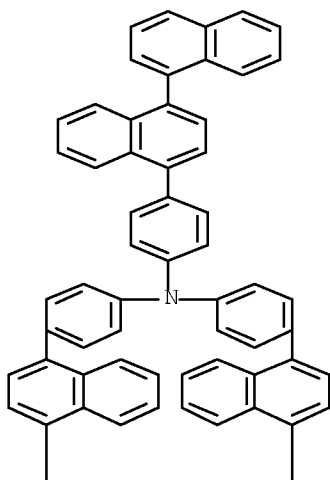
AB Electroluminescent materials are described which are based on derivs. of aromatic heterocycles, binaphthyls, and triarylamines which include substituents (especially biaryl substituents) containing bonds capable of giving internal rotational isomerism, or on compds. described by the general formulas I (Ar = aryl; A = C, N, S or O; X = group of atoms necessary to form 5- or 6-member N containing aromatic heterocyclic ring; Y = group of atoms necessary to form 5- or 6-member aromatic hydrocarbon or aromatic heterocyclic ring, provided that the bond of C-N, C-A or C-C in the formula is a single or double bond; and R = H, substituent, or Ar) or II (Ar61 and Ar62 = each aryl or aromatic heterocyclic; R61 and R62 = each H or substituent, provided that  $\geq 1$  of Ar61, Ar62, R61, and R62 = biaryl group containing a bond capable of giving internal rotational isomerism or a group containing such a biaryl group); rare earth metal complex fluorescent substances containing at least an anionic ligand represented by the formula III (R101 = H or substituent; Y1 = O, S or N(R102); R102 = H or substituent; and Z = atoms forming a 4- to 8-membered ring) are also described. Electroluminescent elements comprising an electroluminescent material and a fluorescent substance emitting light having an emission maximum at the wavelength different from that of light emitted from the electroluminescent material upon absorption of the light emitted from the electroluminescent material are also described, as are color conversion filters comprising a fluorescent substance emitting light having an emission maximum at 400-700 nm upon absorption of the light emitted from the electroluminescent material.

IT 278601-15-3 278610-58-5 278610-92-7  
 278610-94-9 278611-03-3 278611-05-5  
 278611-09-9 278611-11-3 278794-75-5

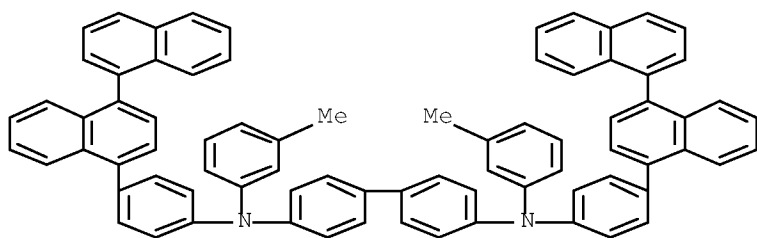
(electroluminescent materials based on compds. including substituents with internal rotation isomers and rare earth complex-based fluorescent materials and electroluminescent elements and color conversion filters)

RN 278601-15-3 HCAPLUS

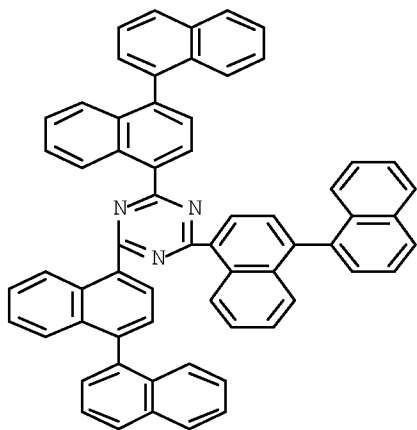
CN Benzenamine, 4-[1,1'-binaphthalen]-4-yl-N,N-bis(4-[1,1'-binaphthalen]-4-ylphenyl)- (CA INDEX NAME)



RN 278610-58-5 HCAPLUS  
 CN [1,1'-Biphenyl]-4,4'-diamine, N,N'-bis(4-[1,1'-binaphthalen]-4-ylphenyl)-N,N'-bis(3-methylphenyl)- (9CI) (CA INDEX NAME)

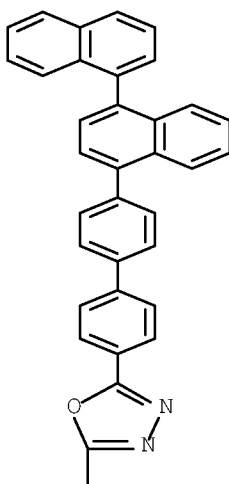


RN 278610-92-7 HCAPLUS  
 CN 1,3,5-Triazine, 2,4,6-tris([1,1'-binaphthalen]-4-yl)- (CA INDEX NAME)

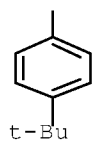


RN 278610-94-9 HCAPLUS  
 CN 1,3,4-Oxadiazole, 2-(4'-[1,1'-binaphthalen]-4-yl[1,1'-biphenyl]-4-yl)-  
 5-[4-(1,1-dimethylethyl)phenyl]- (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

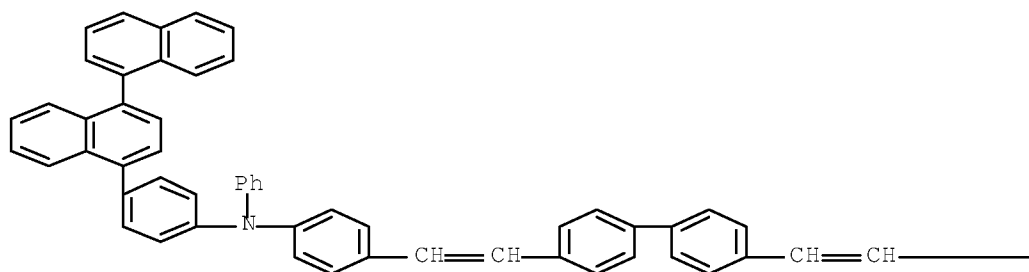


RN 278611-03-3 HCAPLUS

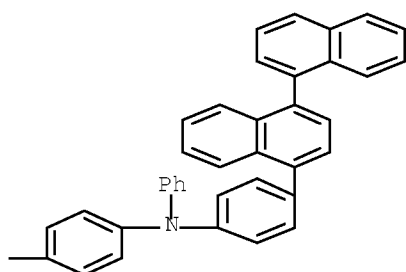
10/774,577

CN Benzenamine, 4,4'-([1,1'-biphenyl]-4,4'-diyl-di-2,1-ethenediyl)bis[N-(4-[1,1'-binaphthalen]-4-ylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

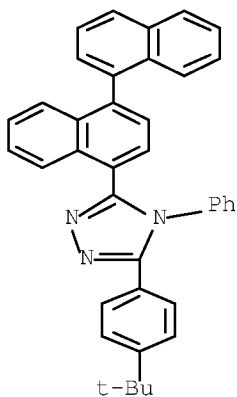


PAGE 1-B



RN 278611-05-5 HCAPLUS

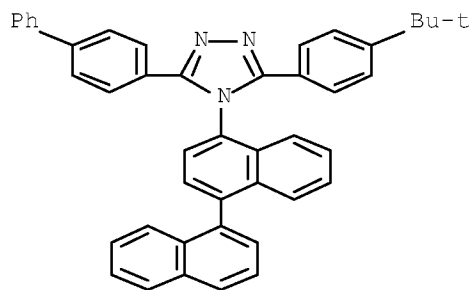
CN 4H-1,2,4-Triazole, 3-[1,1'-binaphthalen]-4-yl-5-[4-(1,1-dimethylethyl)phenyl]-4-phenyl- (CA INDEX NAME)



RN 278611-09-9 HCAPLUS

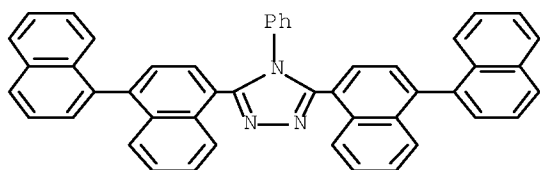
10/774,577

CN 4H-1,2,4-Triazole, 4-[1,1'-binaphthalen]-4-yl-3-[1,1'-biphenyl]-4-yl-5-[4-(1,1-dimethylethyl)phenyl]- (CA INDEX NAME)



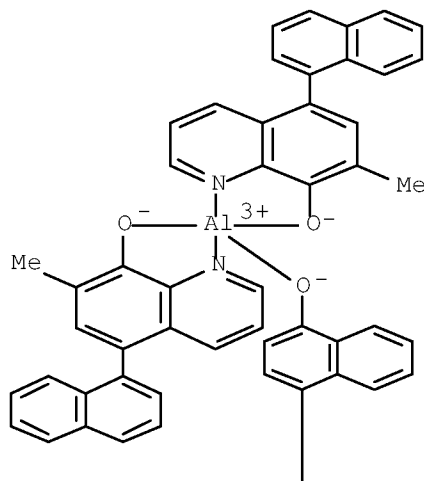
RN 278611-11-3 HCAPLUS

CN 4H-1,2,4-Triazole, 3,5-bis([1,1'-binaphthalen]-4-yl)-4-phenyl- (CA INDEX NAME)

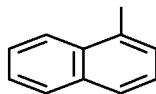


RN 278794-75-5 HCAPLUS

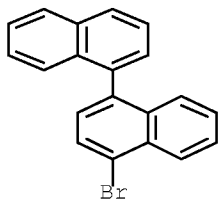
CN Aluminum, ([1,1'-binaphthalen]-4-olato)bis[7-methyl-5-(1-naphthalenyl)-8-quinolinolato-κN1,κO8]- (CA INDEX NAME)



PAGE 1-A



IT 49610-33-5P  
 (electroluminescent materials based on compds. including  
 substituents with internal rotation isomers and rare earth  
 complex-based fluorescent materials and electroluminescent  
 elements and color conversion filters)  
 RN 49610-33-5 HCAPLUS  
 CN 1,1'-Binaphthalene, 4-bromo- (CA INDEX NAME)



IC ICM C09K011-06  
 ICS H05B033-14; G02B005-20  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other  
 Related Properties)  
 Section cross-reference(s): 76  
 IT 135-70-6, p-Quaterphenyl 2085-33-8, Tris(8-  
 hydroxyquinolino)aluminum 50926-11-9, Indium tin oxide  
 65181-78-4, N,N'-Diphenyl-N,N'-bis(3-methylphenyl)-1,1'-biphenyl-4,4'-  
 diamine 73364-01-9 78732-97-5 96761-79-4, 5,5'-Bi-1,10-  
 phenanthroline 100294-74-4 219843-55-7 278601-15-3  
 278601-34-6 278610-55-2 278610-56-3 278610-58-5  
 278610-92-7 278610-94-9 278610-95-0 278610-97-2  
 278611-00-0 278611-01-1 278611-03-3 278611-05-5  
 278611-09-9 278611-10-2 278611-11-3 278611-12-4  
 278611-13-5 278611-15-7 278611-16-8 278611-23-7 278611-25-9  
 278611-26-0 278611-27-1 278611-28-2 278611-29-3 278611-30-6  
 278611-31-7 278611-33-9 278794-68-6 278794-70-0 278794-72-2  
 278794-73-3 278794-75-5 278794-77-7  
 (electroluminescent materials based on compds. including  
 substituents with internal rotation isomers and rare earth  
 complex-based fluorescent materials and electroluminescent  
 elements and color conversion filters)  
 IT 49610-33-5P  
 (electroluminescent materials based on compds. including  
 substituents with internal rotation isomers and rare earth  
 complex-based fluorescent materials and electroluminescent  
 elements and color conversion filters)

L37 ANSWER 47 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2000:377669 HCAPLUS Full-text

DOCUMENT NUMBER: 133:65435

TITLE: Blue-emitting organic EL devices with a hole blocking layer

AUTHOR(S): Sato, Y.; Ichinosawa, S.; Ogata, T.; Fugono, M.; Murata, Y.

CORPORATE SOURCE: Mitsubishi Chemical 1000, Yokohama Research Center, Yokohama, Japan

SOURCE: Synthetic Metals (2000), 111-112, 25-29  
CODEN: SYMEDZ; ISSN: 0379-6779

PUBLISHER: Elsevier Science S.A.

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 07 Jun 2000

AB A hole blocking layer (HBL) is essentially needed to develop a new type of blue-emitting device. The HBL is inserted between the emitting layer (EML) and the electron transport layer (ETL) to confine charge recombination within the EML. An Al complex that has mixed ligands was used as an HBL and a family of aromatic diamines as an EML. Aromatic diamines such as PPD exhibit strong fluorescence in the blue region. The EL peak maximum was at 455 nm with a CIE coordinate of (x = 0.176, y = 0.195). The luminous efficiency of the undoped device was 0.8 lm/W at 100 cd/m<sup>2</sup>. To improve the performance of this blue-emitting device, novel blue dopants are studied. Some of the dopants are effective to improve EL characteristics of the PPD-based device. It was straightforward to modify the blue device with orange or yellow dopants, leading to a white-emitting device.

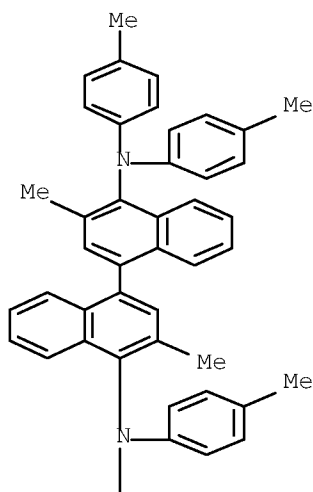
IT 174081-50-6, N,N,N',N'-Tetra(p-tolyl)-3,3'-dimethyl-1,1'-binaphthalene-4,4'-diamine

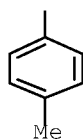
(blue-emitting organic electroluminescent devices with hole blocking layer containing)

RN 174081-50-6 HCAPLUS

CN [1,1'-Binaphthalene]-4,4'-diamine, 3,3'-dimethyl-N,N,N',N'-tetrakis(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A





CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other  
Related Properties)  
Section cross-reference(s): 22, 76

IT 123847-85-8,  $\alpha$ -NPD 139255-17-7, [1,1'-Biphenyl]-4,4'-diamine,  
N,N'-di-2-naphthalenyl-N,N'-diphenyl- 157077-25-3,  
Bis(2-methyl-8-hydroxyquinolinato)(triphenylsiloxy)aluminum  
174081-50-6, N,N,N',N'-Tetra(p-tolyl)-3,3'-dimethyl-1,1'-  
binaphthalene-4,4'-diamine 182507-83-1, [1,1'-Biphenyl]-4,4'-  
diamine, N,N'-di-9-phenanthrenyl-N,N'-diphenyl- 211685-93-7  
227187-54-4, [1,1'-Biphenyl]-4,4'-diamine, N,N'-bis(2-methyl-1-  
naphthalenyl)-N,N'-diphenyl- 247171-66-0, 1,3,5-Tris(4-  
diphenylaminophenyl)triazine  
(blue-emitting organic electroluminescent devices with hole  
blocking layer containing)

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR  
THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
RE FORMAT

L37 ANSWER 48 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2000:277799 HCAPLUS Full-text

DOCUMENT NUMBER: 132:315621

TITLE: Organic electroluminescent device using  
hole-injectable, light-emitting material

INVENTOR(S): Oda, Atsushi; Ishikawa, Hitoshi; Toguchi, Satoru;  
Morioka, Yukiko

PATENT ASSIGNEE(S): NEC Corporation, Japan; Samsung SDI Co., Ltd.

SOURCE: Eur. Pat. Appl., 28 pp.  
CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 996177	A2	20000426	EP 1999-121184	19991022
			<--	
EP 996177	A3	20041229		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2000133455	A	20000512	JP 1998-302547	19981023
			<--	
JP 3548839	B2	20040728		
US 20020160225	A1	20021031	US 1999-425052	19991022
			<--	
US 6670051	B2	20031230		
KR 2000029273	A	20000525	KR 1999-46178	19991023
			<--	

PRIORITY APPLN. INFO.:

JP 1998-302547

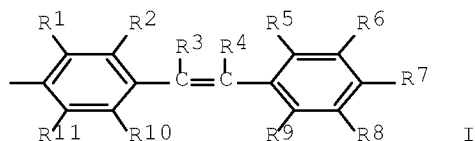
A 19981023

&lt;--

OTHER SOURCE(S): MARPAT 132:315621

ED Entered STN: 28 Apr 2000

GI



AB Organic electroluminescent device comprising at least an anode, an organic light-emitting zone which consists of  $\geq 1$  organic thin-film layers, and a cathode are described in which the organic light-emitting zone is adjacent to the anode, and a layer contacting the anode in the light-emitting zone contains, either singly or as a mixture, a compound represented by the general formula  $\text{Ar2-N(Ar3)-Ar1-N(Ar4)-Ar5}$  ( $\text{Ar1}$  = an (un)substituted arylene group 5-42 carbons,  $\text{Ar2-5}$  = independently selected (un)substituted C6-20 aryl groups;  $\geq 1$  of  $\text{Ar2-5}$  = styrylphenyl represented by the general formula I; and  $\text{R1-11}$  = independently selected H, halo, (un)substituted amino (excluding diarylamino), OH, cyano, nitro, C1-6 alkyl, C1-6 alkoxy group, (un)substituted C6-18 aryl, and (un)substituted C6-18 aryloxy groups).

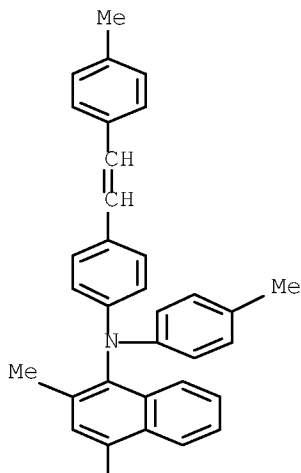
IT 265120-98-7

(organic electroluminescent devices using styrylamino group-containing diarylaminoarylenes)

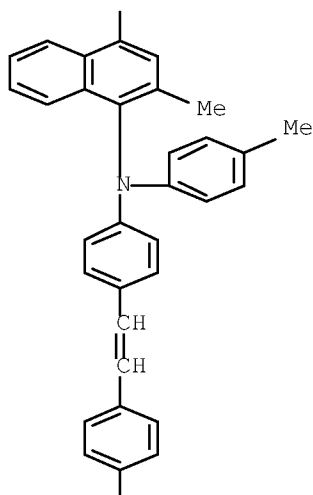
RN 265120-98-7 HCAPLUS

CN [1,1'-Binaphthalene]-4,4'-diamine, 3,3'-dimethyl-N,N'-bis(4-methylphenyl)-N,N'-bis[4-[2-(4-methylphenyl)ethenyl]phenyl]- (9CI)  
(CA INDEX NAME)

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PAGE 3-A



IC ICM H01L051-20  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other  
 Related Properties)  
 Section cross-reference(s): 76  
 IT 2085-33-8, Tris(8-hydroxyquinolinato)aluminum 15082-28-7  
 37271-44-6 38215-36-0 50926-11-9, Indium tin oxide 138372-67-5  
 142289-08-5 146162-49-4 146162-54-1 150405-69-9 186409-20-1  
 221453-36-7 221453-37-8 221453-38-9 221453-40-3 227010-25-5  
 247585-27-9 252644-43-2 252645-38-8 259143-64-1 264126-81-0  
 265120-80-7 265120-81-8 265120-82-9 265120-83-0 265120-84-1  
 265120-85-2 265120-86-3 265120-87-4 265120-88-5 265120-89-6  
 265120-90-9 265120-91-0 265120-92-1 265120-93-2 265120-94-3  
 265120-95-4 265120-96-5 265120-97-6 ~~265120-98-7~~  
 265120-99-8 265121-00-4  
 (organic electroluminescent devices using styrylamino  
 group-containing diarylaminoarylenes)

L37 ANSWER 49 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2000:120871 HCAPLUS Full-text  
 DOCUMENT NUMBER: 132:173451  
 TITLE: Aromatic hydrocarbon compound for organic  
 electroluminescent device  
 INVENTOR(S): Azuma, Hisahiro; Hosokawa, Chishio; Kusumoto,  
 Tadashi

10/774,577

PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000053677	A	20000222	JP 1998-225680	19980810
			<--	
PRIORITY APPLN. INFO.:			JP 1998-225680	19980810
			<--	

OTHER SOURCE(S): MARPAT 132:173451

ED Entered STN: 22 Feb 2000

AB The aromatic hydrocarbon compound for organic electroluminescent device has structure (R1)(Y1)C=CH-X-CH=C(R2)(Y2) ( X = C1-30 alkyl, alkoxy, C6-20 aryl, C6-18 aryl oxy, etc.; Y1-2 = C4-30 heterocyclic rings containing S, polyarylene; R1-2 = H, C1-30 alkyl, alkoxy, C6-20 aryl, C6-18 aryl oxy, amino, etc.). The aromatic hydrocarbon compound provides an organic electroluminescent device of the high electroluminescent efficiency, the decreased driving voltage, and the excellent heat-resistance.

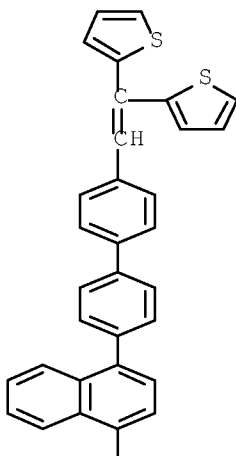
IT 258833-14-6P

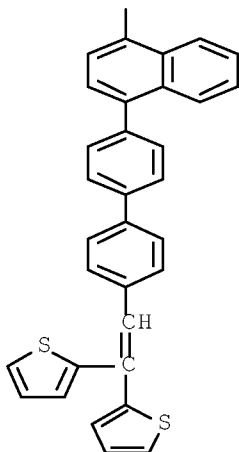
(aromatic hydrocarbon compound for organic electroluminescent device)

RN 258833-14-6 HCAPLUS

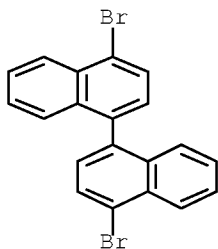
CN Thiophene, 2,2',2'',2'''-[[1,1'-binaphthalene]-4,4'-diylbis([1,1'-biphenyl]-4',4-diyl-2-ethenyl-1-ylidene)]tetrakis- (9CI) (CA INDEX NAME)

PAGE 1-A





IT 49610-35-7  
 (aromatic hydrocarbon compound for organic electroluminescent device)  
 RN 49610-35-7 HCAPLUS  
 CN 1,1'-Binaphthalene, 4,4'-dibromo- (CA INDEX NAME)



IC ICM C07D333-10  
 ICS C07D275-02; C07D277-22; C07D279-20; C07D333-54; C07D339-08;  
 C07D409-14; C09K011-06; H05B033-14; H05B033-22  
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other  
 Reprographic Processes)  
 Section cross-reference(s): 27, 73  
 ST arom hydrocarbon org electroluminescent device  
 IT Electroluminescent devices  
 (aromatic hydrocarbon compound for organic electroluminescent device)  
 IT Aromatic compounds  
 (aromatic hydrocarbon compound for organic electroluminescent device)  
 IT Phosphors  
 (electroluminescent; aromatic hydrocarbon compound for organic electroluminescent device)  
 IT 258833-08-8P  
 (aromatic hydrocarbon compound for organic electroluminescent device)

10/774,577

IT 258833-09-9P 258833-10-2P 258833-12-4P ~~258833-14-6P~~  
258833-16-8P 258833-18-0P 258833-21-5P  
(aromatic hydrocarbon compound for organic electroluminescent device)  
IT 135-00-2, 2-Benzoylthiophene 523-27-3 38186-51-5  
~~49610-35-7~~ 121848-75-7 258833-11-3 258833-13-5  
258833-15-7 258833-17-9 258833-19-1 258833-20-4  
(aromatic hydrocarbon compound for organic electroluminescent device)

L37 ANSWER 50 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 1999:788460 HCAPLUS Full-text  
DOCUMENT NUMBER: 132:123340  
TITLE: A Binaphthyl-Based Conjugated Polymer for Light-Emitting Diodes  
AUTHOR(S): Zheng, Lixin; Urian, R. Craig; Liu, Yunqi; Jen, Alex K.-Y.; Pu, Lin  
CORPORATE SOURCE: Department of Chemistry, Northeastern University, Boston, MA, 02115, USA  
SOURCE: Chemistry of Materials (2000), 12(1), 13-15  
CODEN: CMATEX; ISSN: 0897-4756  
PUBLISHER: American Chemical Society  
DOCUMENT TYPE: Journal  
LANGUAGE: English

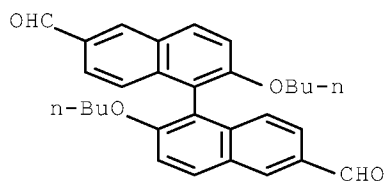
ED Entered STN: 15 Dec 1999

AB The monomer 2,2'-dibutoxyl[1,1'-binaphthyl]-6,6'-dicarbaldehyde was prepared by a 3-step synthesis starting from 1,1'-bi-2-naphthol. A binaphthyl-based conjugated polymer, poly(binaphthyl vinylene-1,4-phenylene vinylene) (PBVPV), was prepared by the Wittig-Horner condensation of 2,2'-dibutoxyl[1,1'-binaphthyl]-6,6'-dicarbaldehyde and xylene tetra-Et disphosphonate. The thermal properties of PBVPV were analyzed using thermogravimetric anal. and differential scanning calorimetry under N<sub>2</sub>. The cyclic voltammogram of PBVPV-coated indium tin oxide (ITO) glass was recorded in MeCN solution. Photoluminescent and electroluminescent spectra of PBVPV were also measured. The polymer emits a strong blue fluorescence under UV irradiation in dilute CHCl<sub>3</sub> solution and shows 3 photoluminescent peaks at 447, 462, and 500 nm. To study the electroluminescence property of the polymer, a single-layer light emitting device was made by spin-coating a thin layer of the polymer (.apprx.100 nm) onto ITO glass substrates. The current-voltage and light-voltage curves of this device showed a typical diode behavior.

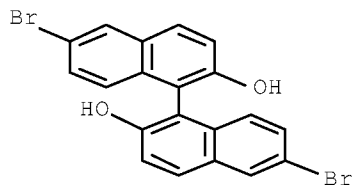
IT ~~256388-16-6P~~  
(monomer; preparation and optical properties of binaphthyl-based conjugated polymer for LEDs)

RN 256388-16-6 HCAPLUS

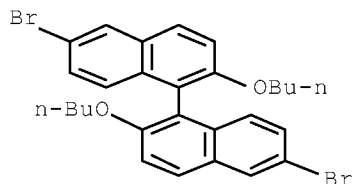
CN [1,1'-Binaphthalene]-6,6'-dicarboxaldehyde, 2,2'-dibutoxy- (CA INDEX NAME)



IT 13185-00-7P 256388-15-5P  
 (preparation and optical properties of binaphthyl-based conjugated  
 polymer for LEDs)  
 RN 13185-00-7 HCAPLUS  
 CN [1,1'-Binaphthalene]-2,2'-diol, 6,6'-dibromo- (CA INDEX NAME)



RN 256388-15-5 HCAPLUS  
 CN 1,1'-Binaphthalene, 6,6'-dibromo-2,2'-dibutoxy- (CA INDEX NAME)



CC 37-5 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 73

IT 256388-16-6P  
 (monomer; preparation and optical properties of binaphthyl-based  
 conjugated polymer for LEDs)

IT 13185-00-7P 256388-15-5P  
 (preparation and optical properties of binaphthyl-based conjugated  
 polymer for LEDs)

REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR  
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
 RE FORMAT

L37 ANSWER 51 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1999:783403 HCAPLUS Full-text

DOCUMENT NUMBER: 132:17010

TITLE: Organic electroluminescent device

INVENTOR(S): Higashiguchi, Toru; Ishikawa, Hitoshi; Oda,  
 Atsushi

PATENT ASSIGNEE(S): NEC Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 32 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

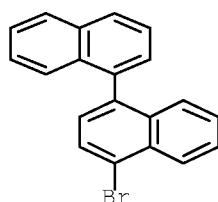
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 11339963	A	19991210	JP 1998-141492	19980522
			<--	
JP 2956691	B2	19991004		
US 6660408	B1	20031209	US 1999-315345	19990520
			<--	
RITY APPLN. INFO.:			JP 1998-141492	A 19980522
			<--	

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OTHER SOURCE(S):      MARPAT 132:17010
ED   Entered STN:    10 Dec 1999
GI   For diagram(s), see printed CA Issue.
AB   An organic electroluminescent device comprises a compound represented by Ar1-
      Ar2, Ar1-Ar3-Ar2, and Ar1-Ar3-Ar4-Ar2 [ Ar1 and Ar2 are represented by I, II,
      and III; Ar3 and Ar4 are represented by IV, V, VI VII and VIII; R1-14 = H,
      halo, OH, amino, etc.; A1-13 = condensed hydrocarbon or heterocyclic ring].
IT   49610-33-5
      (organic electroluminescent device)
RN   49610-33-5      HCAPLUS
CN   1,1'-Binaphthalene, 4-bromo-    (CA INDEX NAME)

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IC ICM C09K011-06  
ICS C09K011-06; H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other  
Related Properties)  
Section cross-reference(s): 25

IT 84-65-1, Anthraquinone 90-11-9 90-44-8, Anthrone 93-61-8,  
N-Methylformanilide 122-39-4, Diphenylamine, reactions 128-08-5,  
N-Bromosuccinimide 1564-64-3, 9-Bromoanthracene 7439-93-2,  
Lithium, reactions 7439-95-4, Magnesium, reactions  
49610-33-5 121848-75-7, 10,10'-Dibromo-9,9'-bianthryl  
(organic electroluminescent device)

L37 ANSWER 52 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 1999:756828 HCAPLUS Full-text  
DOCUMENT NUMBER: 132:16985  
TITLE: Organic electroluminescent device  
INVENTOR(S): Sato, Yoshiharu; Ogata, Tomoyuki  
PATENT ASSIGNEE(S): Mitsubishi Chemical Industries Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 22 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 11329734	A	19991130	JP 1998-139509	19980521

PRIORITY APPLN. INFO.: JP 1998-57888 A 19980310  
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OTHER SOURCE(S): MARPAT 132:16985

ED Entered STN: 30 Nov 1999

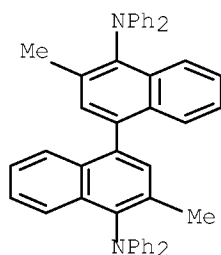
AB In the device comprising an anode, a hole-transporting layer, a light-emitting layer, a hole-blocking layer, and a cathode; the light-emitting layer contains an aromatic amine compound emitting fluorescence having maximum wave length 400-500 nm. as a host and an fluorescent dye emitting fluorescence having maximum wave length 550-650 nm as a dopant. The ionization potential of the hole-transporting layer and of the hole-blocking layer are  $\geq 0.1$  eV and  $\geq 0.2$  eV higher than that of the light-emitting layer, resp. The device stably emits white light at high emission efficiency.

IT 227939-54-0

(host in light-emitting layer; organic electroluminescent device containing aromatic amine host and fluorescent dye dopant in light-emitting layer)

RN 227939-54-0 HCAPLUS

CN [1,1'-Binaphthalene]-4,4'-diamine, 3,3'-dimethyl-N,N,N',N'-tetraphenyl-  
 (9CI) (CA INDEX NAME)



IC ICM H05B033-14

ICS C09K011-06; H05B033-22

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

IT 182507-83-1 227187-54-4 227939-54-0

(host in light-emitting layer; organic electroluminescent device containing aromatic amine host and fluorescent dye dopant in light-emitting layer)

L37 ANSWER 53 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1999:699273 HCAPLUS Full-text

DOCUMENT NUMBER: 131:315633

TITLE: Organic electroluminescent material

INVENTOR(S): Sato, Yoshiharu; Ichinosawa, Akiko; Ogata, Tomoyuki

PATENT ASSIGNEE(S): Mitsubishi Chemical Industries Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 11302639

A

19991102

JP 1998-118249

19980428

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PRIORITY APPLN. INFO.:

JP 1998-34529

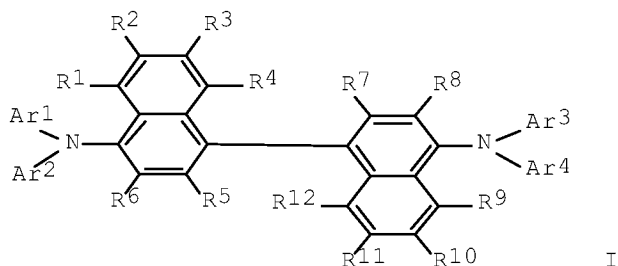
A 19980217

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OTHER SOURCE(S): MARPAT 131:315633

ED Entered STN: 02 Nov 1999

GI



AB The invention refers to a blue-emitting electroluminescent material I [Ar1-4 = (un)substituted aromatic hydrocarbon or (un)substituted aromatic heterocyclic group and R1-12 = H, OH, cyano, carboxyl group, or (un)substituted alkyl, aralkyl, alkenyl, amino, amide, alkoxycarbonyl, alkoxy, aryloxy, aromatic hydrocarbon or aromatic heterocyclic group], suitable for use in flat panel displays.

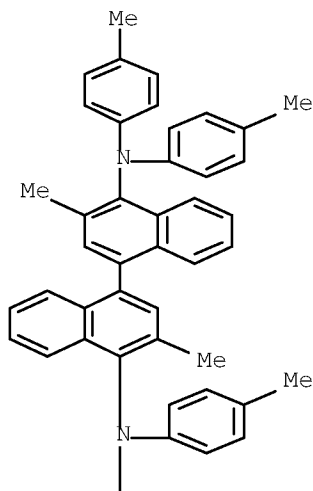
IT 174081-50-6P

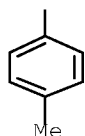
(organic electroluminescent material)

RN 174081-50-6 HCAPLUS

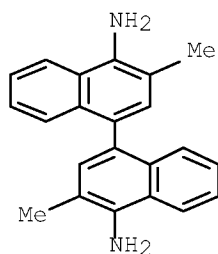
CN [1,1'-Binaphthalene]-4,4'-diamine, 3,3'-dimethyl-N,N,N',N'-tetrakis(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A





IT 13138-48-2, 3,3'-Dimethylnaphthidine  
 (organic electroluminescent material)  
 RN 13138-48-2 HCAPLUS  
 CN [1,1'-Binaphthalene]-4,4'-diamine, 3,3'-dimethyl- (CA INDEX NAME)



IC ICM C09K011-06  
 ICS H05B033-14  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other  
 Related Properties)  
 IT 174081-50-6P  
 (organic electroluminescent material)  
 IT 13138-48-2, 3,3'-Dimethylnaphthidine 123847-85-8,  
 4,4'-Bis[N-(1-naphthyl)-N-phenylamino]biphenyl 157077-25-3  
 (organic electroluminescent material)  
 L37 ANSWER 54 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1999:640272 HCAPLUS Full-text  
 DOCUMENT NUMBER: 131:250241  
 TITLE: Organic electroluminescent device  
 INVENTOR(S): Sato, Yoshiharu; Ichinosawa, Akiko; Okata,  
 Tomoyuki  
 PATENT ASSIGNEE(S): Mitsubishi Chemical Industries Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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10/774,577

JP 11273867

A

19991008

JP 1998-118250

19980428

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PRIORITY APPLN. INFO.:

JP 1998-8216

A 19980120

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OTHER SOURCE(S): MARPAT 131:250241

ED Entered STN: 08 Oct 1999

AB The invention relates to an organic electroluminescent device that comprises an aromatic amine light-emitting layer sandwiched between a hole-transporting layer and a hole-blocking layer, wherein the hole-transporting layer and the hole-blocking layer have the ionization potential 0.1 eV and 0.2 eV greater than that of the light-emitting layer, resp.

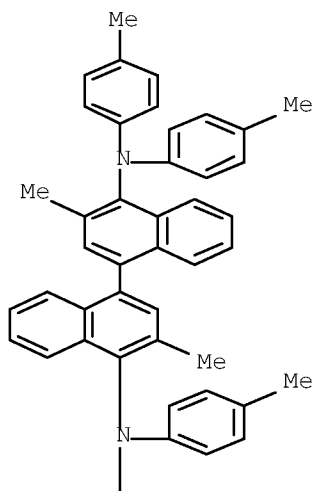
IT 174081-50-6 174081-51-7

(light-emitting layer; organic electroluminescent device)

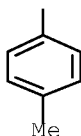
RN 174081-50-6 HCAPLUS

CN [1,1'-Binaphthalene]-4,4'-diamine, 3,3'-dimethyl-N,N,N',N'-tetrakis(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A

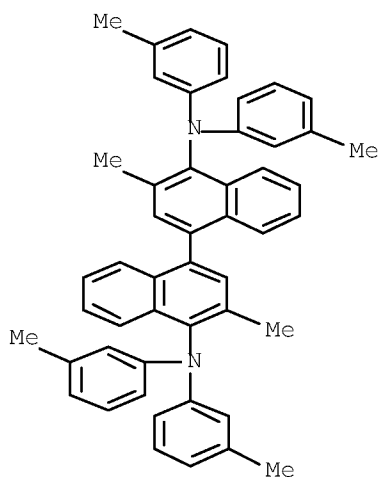


PAGE 2-A



RN 174081-51-7 HCAPLUS

CN [1,1'-Binaphthalene]-4,4'-diamine, 3,3'-dimethyl-N,N,N',N'-tetrakis(3-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-14  
 ICS H05B033-22; C09K011-06  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other  
 Related Properties)  
 Section cross-reference(s): 74  
 IT 139255-17-7 174081-50-6 174081-51-7 182507-83-1  
 227187-54-4  
 (light-emitting layer; organic  
 electroluminescent device)

L37 ANSWER 55 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1999:394827 HCAPLUS Full-text  
 DOCUMENT NUMBER: 131:80578  
 TITLE: Organic electric-field light-emitting device  
 containing diaminonaphthyl or diaminoterphenyl  
 derivative  
 INVENTOR(S): Hamada, Sukeji  
 PATENT ASSIGNEE(S): Sanyo Electric Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 11167991	A	19990622	JP 1997-334473	19971204
			<--	
JP 3490879	B2	20040126		
PRIORITY APPLN. INFO.:			JP 1997-334473	19971204
			<--	

OTHER SOURCE(S): MARPAT 131:80578

ED Entered STN: 28 Jun 1999

AB The device has an organic material-based light-emitting layer and a carrier-transporting layer sandwiched between a hole-injecting electrode and an electron-injecting electrode, in which at least one of the layers contains a 4,4'-diamino-naphthyl derivative or a 4,4'-diamino-terphenyl derivative. The device shows high luminance and long life.

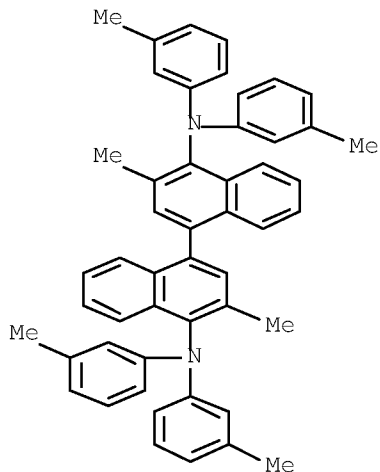
IT 174081-51-7

10/774,577

(organic elec.-field ~~light-emitting~~ device containing  
diaminonaphthyl or diaminoterphenyl derivative)

RN 174081-51-7 HCAPLUS

CN [1,1'-Binaphthalene]-4,4'-diamine, 3,3'-dimethyl-N,N,N',N'-tetrakis(3-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-14

ICS C09K011-06; H05B033-22

CC 73-12 (Optical, Electron, and Mass Spectroscopy and Other  
Related Properties)

IT 154075-58-8 174081-51-7 228579-29-1  
(organic elec.-field ~~light-emitting~~ device containing  
diaminonaphthyl or diaminoterphenyl derivative)

L37 ANSWER 56 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1999:365685 HCAPLUS Full-text

DOCUMENT NUMBER: 131:65685

TITLE: 1,1'-Binaphthyl compounds and organic  
electroluminescent devices using them

INVENTOR(S): Ishikawa, Hitoshi; Oda, Atsushi; Higashiguchi,  
Itaru

PATENT ASSIGNEE(S): NEC Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 4

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 11152253	A	19990608	JP 1997-319430	19971120
			<--	
JP 2882403	B2	19990412		
US 6582837	B1	20030624	US 1998-112364	19980709
			<--	
PRIORITY APPLN. INFO.:			JP 1997-188639	A 19970714
			<--	
			JP 1997-319430	A 19971120

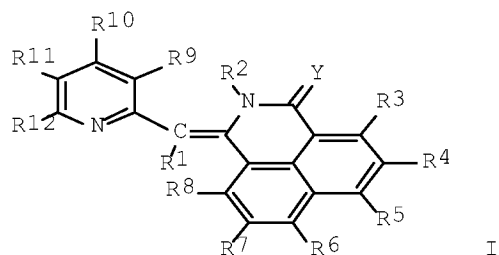
10/774,577

<--  
JP 1998-29996 A 19980212  
<--  
JP 1998-104564 A 19980415  
<--

OTHER SOURCE(S): MARPAT 131:65685

ED Entered STN: 14 Jun 1999

GI

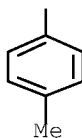
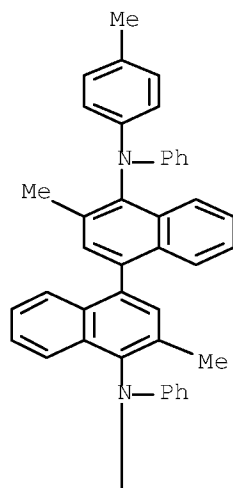


AB Claimed are 1,1'-binaphthyl compds. I [R1-R14 = H, halo, OH, (un)substituted amino, NO2, cyano, (un)substituted alkyl, (un)substituted alkenyl, (un)substituted cycloalkyl, (un)substituted alkoxy, (un)substituted aromatic hydrocarbyl, (un)substituted aromatic heterocyclyl, (un)substituted aralkyl, (un)substituted aryloxy, (un)substituted alkoxycarbonyl, carboxyl; 2 of R1-R7 or R8-R14 may form a ring; at least 1 of R1-R14 is NAr1Ar2; Ar1 = C6-20 substituted aryl having at least 1 styryl substituent; Ar2 = C6-20 (un)substituted aryl]. A laminated organic electroluminescent device having  $\geq 1$  organic thin-film layer including a pos. hole-transporting layer containing I and a laminated organic electroluminescent devices containing a light-emitting layer or an electron-transporting layer containing I [R1-R14 = same as above; Ar1, Ar2 = C6-20 (un)substituted aryl] are also claimed. The devices show high luminance.

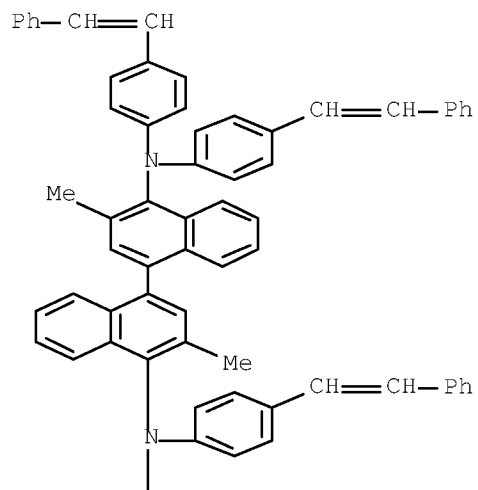
IT 227939-36-8 227939-41-5 227939-44-8  
(preparation of binaphthyl compds. for high-luminance  
laminated organic electroluminescent device)

RN 227939-36-8 HCAPLUS

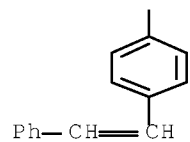
CN [1,1'-Binaphthalene]-4,4'-diamine, 3,3'-dimethyl-N,N'-bis(4-methylphenyl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



RN 227939-41-5 HCAPLUS  
 CN [1,1'-Binaphthalene]-4,4'-diamine, 3,3'-dimethyl-N,N,N',N'-tetrakis[4-(2-phenylethenyl)phenyl]- (9CI) (CA INDEX NAME)

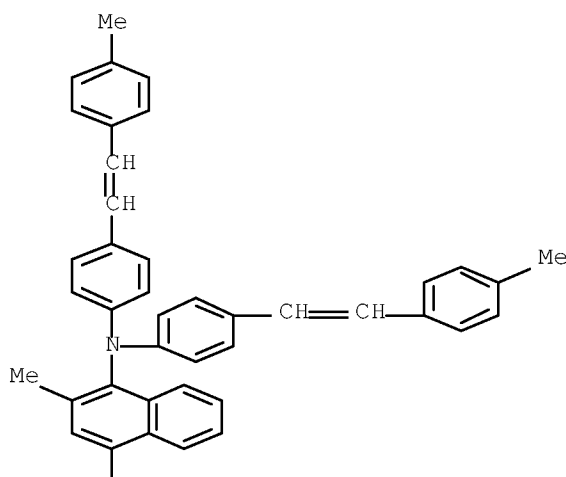


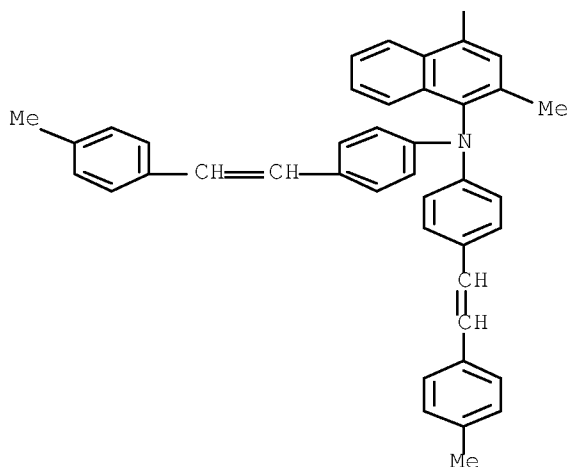
PAGE 2-A



RN 227939-44-8 HCAPLUS  
 CN [1,1'-Binaphthalene]-4,4'-diamine, 3,3'-dimethyl-N,N,N',N'-tetrakis[4-(2-(4-methylphenyl)ethenyl)phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



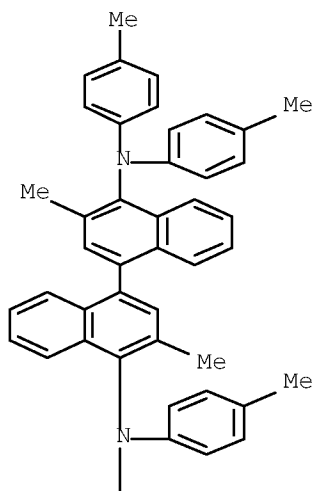


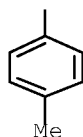
IT 174081-50-6P 227939-32-4P

(preparation of binaphthyl compds. for high-luminance  
laminated organic electroluminescent device)

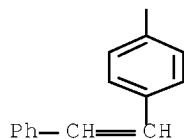
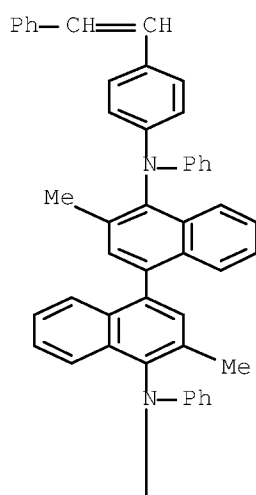
RN 174081-50-6 HCAPLUS

CN [1,1'-Binaphthalene]-4,4'-diamine, 3,3'-dimethyl-N,N,N',N'-tetrakis(4-methylphenyl)- (9CI) (CA INDEX NAME)

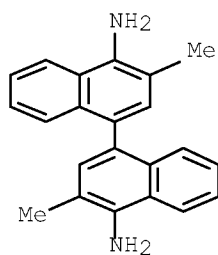




RN 227939-32-4 HCAPLUS  
 CN [1,1'-Binaphthalene]-4,4'-diamine, 3,3'-dimethyl-N,N'-diphenyl-N,N'-bis[4-(2-phenylethenyl)phenyl]- (9CI) (CA INDEX NAME)



IT 13138-48-2, 3,3'-Dimethylnaphthidine  
 (preparation of binaphthyl compds. for high-luminance  
 laminated organic electroluminescent device)  
 RN 13138-48-2 HCAPLUS  
 CN [1,1'-Binaphthalene]-4,4'-diamine, 3,3'-dimethyl- (CA INDEX NAME)

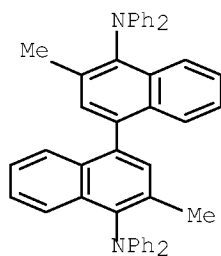


IT 227939-54-0P 227939-57-3P

(preparation of binaphthyl compds. for high-luminance  
laminated organic electroluminescent device)

RN 227939-54-0 HCAPLUS

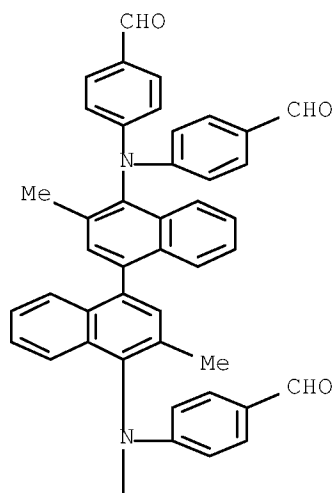
CN [1,1'-Binaphthalene]-4,4'-diamine, 3,3'-dimethyl-N,N,N',N'-tetraphenyl-  
(9CI) (CA INDEX NAME)

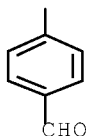


RN 227939-57-3 HCAPLUS

CN Benzaldehyde, 4,4',4'',4'''-[ (3,3'-dimethyl[1,1'-binaphthalene]-4,4'-  
diyl)dinitrilo]tetrakis- (9CI) (CA INDEX NAME)

PAGE 1-A





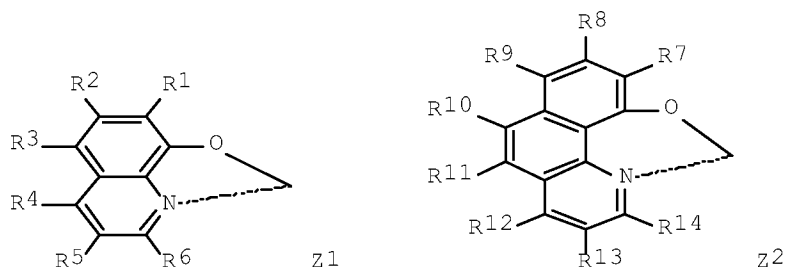
IC ICM C07C211-57  
 ICS C09K011-00; C09K011-06; H05B033-14; H05B033-22  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other  
 Related Properties)  
 Section cross-reference(s): 25, 76  
 IT 197024-84-3 227939-34-6 227939-36-8 227939-41-5  
 227939-44-8  
 (preparation of binaphthyl compds. for high-luminance  
 laminated organic electroluminescent device)  
 IT 174081-50-6P 227939-32-4P  
 (preparation of binaphthyl compds. for high-luminance  
 laminated organic electroluminescent device)  
 IT 93-61-8, N-Methylformanilide 591-50-4, Iodobenzene 624-31-7,  
 p-Iodotoluene 1080-32-6, Diethyl benzylphosphonate  
 13138-48-2, 3,3'-Dimethylnaphthidine  
 (preparation of binaphthyl compds. for high-luminance  
 laminated organic electroluminescent device)  
 IT 227939-54-0P 227939-57-3P  
 (preparation of binaphthyl compds. for high-luminance  
 laminated organic electroluminescent device)

L37 ANSWER 57 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1999:111983 HCAPLUS Full-text  
 DOCUMENT NUMBER: 130:202741  
 TITLE: Gallium-containing polynuclear complex,  
 light-emitting material containing it, and organic  
 electroluminescent device using it  
 INVENTOR(S): Enokida, Toshio; Tamano, Michiko; Onikubo,  
 Shunichi; Okutsu, Satoshi  
 PATENT ASSIGNEE(S): Toyo Ink Mfg. Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 29 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 11040355	A	19990212	JP 1997-187893	19970714
			<--	
PRIORITY APPLN. INFO.:			JP 1997-187893	19970714
			<--	

OTHER SOURCE(S): MARPAT 130:202741  
 ED Entered STN: 18 Feb 1999

GI



AB The complex is shown as Q2Q1GaOA1(XA2)nOGaQ3Q4 [I; Q1-4 = Z1, Z2; A1, A2 = (substituted) alkylene, (substituted) divalent monocyclic or condensed polycyclic group; X = (substituted) alkylene, O, S, SO<sub>2</sub>, CO, SiR<sub>15</sub>R<sub>16</sub>, NR<sub>17</sub>; X ≠ alkylene if A1 and A2 = (substituted) alkylene; n = 0-2; R1-17 = H, halo, cyano, NO<sub>2</sub>, (substituted) alkyl, (substituted) alkoxy, (substituted) aryloxy, (substituted) alkylthio, (substituted) monocyclic or condensed polycyclic group; neighboring R1-16 may form ring(s)]. The light-emitting material is composed of I and a dopant. The electroluminescent device has a light-emitting layer containing the above light-emitting material between a pair of electrodes. In the device, the cathode may also be composed of I. The complex gives green- or blue-emitting electroluminescent devices with high emission and long service life.

IT 220790-29-4  
(green- and blue-emitting electroluminescent device  
containing gallium-containing polynuclear complex)

RN 220790-29-4 HCAPLUS

CN Gallium, [ $\mu$ -[[1,1'-binaphthalene]-4,4'-diolato(2-)-  
 $\kappa$ O: $\kappa$ O']]tetrakis(2-methyl-8-quinolinolato-  
 $\kappa$ N1, $\kappa$ O8)di- (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IC ICM H05B033-14

ICS C09K011-06; H05B033-22

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other  
Related Properties)

Section cross-reference(s): 29

IT	220790-12-5	220790-14-7	220790-15-8	220790-16-9	220790-17-0
	220790-18-1	220790-19-2	220790-20-5	220790-21-6	220790-22-7
	220790-23-8	220790-24-9	220790-25-0	220790-26-1	220790-27-2
	220790-28-3	220790-29-4	220790-30-7	220790-31-8	
	220790-32-9	220790-33-0	220790-34-1	220790-36-3	220790-37-4
	220790-38-5	220790-39-6	220790-40-9	220790-41-0	220790-42-1
	220790-43-2	220790-44-3	220790-45-4	220790-46-5	220790-47-6
	220790-48-7	220790-49-8	220790-50-1	220790-51-2	220790-52-3
	220790-53-4	220790-54-5	220790-55-6	220790-56-7	220790-57-8
	220790-58-9	220790-59-0	220790-60-3	220790-61-4	220790-62-5
	220790-63-6	220790-64-7	220790-65-8	220790-66-9	220790-67-0
	220790-68-1	220790-69-2	220790-70-5	220790-71-6	220790-72-7
	220790-73-8	220790-74-9	220790-75-0	220790-76-1	220790-77-2
	220790-78-3	220790-79-4	220790-80-7	220790-81-8	220790-82-9

220790-83-0 220790-84-1 220790-85-2 220790-86-3 220790-87-4  
 220790-88-5 220790-89-6 220790-90-9  
 (green- and blue-emitting ~~electroluminescent~~ device  
 containing gallium-containing polynuclear complex)

L37 ANSWER 58 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1998:669354 HCAPLUS Full-text

DOCUMENT NUMBER: 129:348991

TITLE: Photophysical behaviors of oligomer based on  
 1,1'-binaphthol with 3,3'-acetylene spacer

AUTHOR(S): Liu, Tianjun; Wang, Dong; Bai, Fenglian; Li,  
 Chaojun; Slaven, William T., IV

CORPORATE SOURCE: Inst. Chem., Chin. Acad. Sci., Beijing, 100080,  
 Peop. Rep. China

SOURCE: Chinese Journal of Polymer Science (1998  
 ), 16(3), 234-240

CODEN: CJPSEG; ISSN: 0256-7679

PUBLISHER: Science Press

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 23 Oct 1998

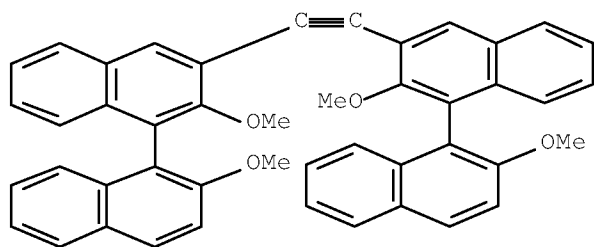
AB The photophys. behaviors of the oligomer based on 1,1'-binaphthol with 3,3'-  
 acetylene spacer were investigated. The oligomer mol. has a naphthyl-  
 acetylene-naphthyl effective conjugation segment. With the changes of the  
 external environment such as solvents used, solvent viscosity and ambient  
 temperature, the wavelengths of absorption and the intensities of fluorescence  
 and absorption are changed slightly, but the fluorescent intensity and quantum  
 yield can be influenced. The luminescent behaviors of the oligomer exhibit  
 twisted intramol. charge transfer characteristics, which could have a  
 potential application in wavelength-stable light emitting material adaptable  
 to ambient temperature, and the solvents used in wide range.

IT 215455-65-5

(photophysics and twisted intramol. charge transfer  
 luminescence of oligomer based on binaphthol with acetylene  
 spacer in relation to)

RN 215455-65-5 HCAPLUS

CN 1,1'-Binaphthalene, 3,3''-(1,2-ethynediyl)bis[2,2'-dimethoxy-,  
 (1R,1''R)-rel- (9CI) (CA INDEX NAME)



CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other  
 Reprographic Processes)

Section cross-reference(s): 73

IT 215455-65-5

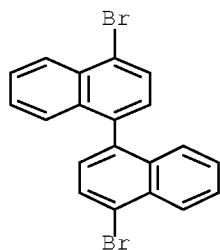
(photophysics and twisted intramol. charge transfer  
 luminescence of oligomer based on binaphthol with acetylene  
 spacer in relation to)

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 59 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1998:466566 HCAPLUS Full-text  
 DOCUMENT NUMBER: 129:115438  
 TITLE: Organic ~~electroluminescent~~ devices and luminescent display employing such organic ~~electroluminescent~~ devices  
 INVENTOR(S): Tamura, Shin-ichiro; Ishibashi, Tadashi  
 PATENT ASSIGNEE(S): Sony Corp., Japan  
 SOURCE: Eur. Pat. Appl., 22 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

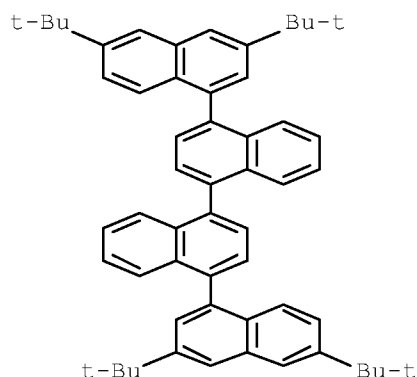
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 851715	A1	19980701	EP 1997-122303	19971217
			<--	
EP 851715	B1	20020313		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 10183112	A	19980714	JP 1996-350713	19961227
			<--	
US 5858564	A	19990112	US 1997-993863	19971218
			<--	
PRIORITY APPLN. INFO.:			JP 1996-350713	A 19961227
			<--	

OTHER SOURCE(S): MARPAT 129:115438  
 ED Entered STN: 28 Jul 1998  
 AB ~~Electroluminescent~~ devices are described in which the luminescent zone contains quaterterrylene or a derivative thereof as the luminescent material. Displays including the devices are also described.  
 IT 49610-35-7, 4,4'-Dibromo-1,1'-binaphthyl  
 (organic ~~electroluminescent~~ devices and displays employing quaterterrylene derivs.)  
 RN 49610-35-7 HCAPLUS  
 CN 1,1'-Binaphthalene, 4,4'-dibromo- (CA INDEX NAME)



IT 126847-92-5P  
 (organic ~~electroluminescent~~ devices and displays employing quaterterrylene derivs.)

RN 126847-92-5 HCAPLUS  
 CN 1,1':4',1'':4'',1'''-Quaternaphthalene, 3,3''',6,6'''-tetrakis(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-14  
 ICS H05B033-26  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 Section cross-reference(s): 74, 76  
 ST quaterterrylene deriv **electroluminescent** device; display  
**electroluminescent** quaterterrylene deriv  
 IT **Electroluminescent** devices  
 (organic **electroluminescent** devices and displays employing quaterterrylene derivs.)  
 IT 1314-13-2, Zinc oxide, uses  
 (electrodes containing aluminum mixed with; organic **electroluminescent** devices and displays employing quaterterrylene derivs.)  
 IT 18282-10-5, Tin dioxide  
 (electrodes containing antimony mixed with; organic **electroluminescent** devices and displays employing quaterterrylene derivs.)  
 IT 7440-36-0, Antimony, uses  
 (electrodes containing tin dioxide mixed with; organic **electroluminescent** devices and displays employing quaterterrylene derivs.)  
 IT 7429-90-5, Aluminum, uses 7439-93-2, Lithium, uses 7439-95-4, Magnesium, uses 7440-39-3, Barium, uses 7440-57-5, Gold, uses 7440-70-2, Calcium, uses 7440-74-6, Indium, uses 12798-95-7 50926-11-9, Indium tin oxide  
 (electrodes containing; organic **electroluminescent** devices and displays employing quaterterrylene derivs.)  
 IT 188-73-8, Benzo[1,2,3-cd:4,5,6-c'd']diperylene 2085-33-8, Tris(8-hydroxyquinolinato)aluminum 4733-39-5, 2,9-Dimethyl-4,7-diphenyl-1,10-phenanthroline 65181-78-4, N,N'-Diphenyl-N,N'-bis(3-methylphenyl)-1,1'-biphenyl-4,4'-diamine  
 (organic **electroluminescent** devices and displays employing quaterterrylene derivs.)  
 IT 126822-84-2P  
 (organic **electroluminescent** devices and displays employing quaterterrylene derivs.)  
 IT 91-20-3, Naphthalene, reactions 507-20-0, tert-Butyl chloride

10/774,577

49610-35-7, 4,4'-Dibromo-1,1'-binaphthyl  
(organic electroluminescent devices and displays employing  
quaterterrylene derivs.)

IT 10239-76-6P 10275-58-8P, 2,7-Di(tert-butyl)naphthalene  
126822-80-8P 126822-86-4P 126847-92-5P  
(organic electroluminescent devices and displays employing  
quaterterrylene derivs.)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR  
THIS RECORD. ALL CITATIONS AVAILABLE IN THE  
RE FORMAT

L37 ANSWER 60 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1998:361086 HCAPLUS Full-text

DOCUMENT NUMBER: 129:47262

TITLE: Organic electroluminescent materials and devices  
using the same with high luminance and long life  
INVENTOR(S): Okutsu, Akira; Onikubo, Shunichi; Tamano, Michiko;  
Enokida, Toshio

PATENT ASSIGNEE(S): Toyo Ink Mfg. Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 22 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

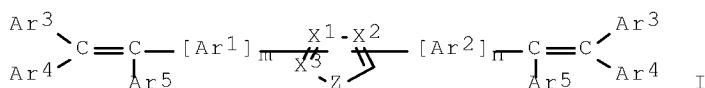
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 10152677	A	19980609	JP 1996-313290	19961125
			<--	
JP 3767049	B2	20060419		
PRIORITY APPLN. INFO.:			JP 1996-313290	19961125
			<--	

OTHER SOURCE(S): MARPAT 129:47262

ED Entered STN: 13 Jun 1998

GI



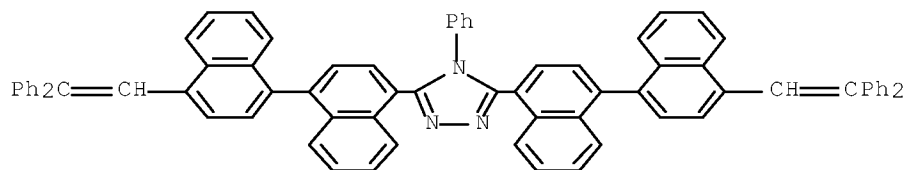
AB Title materials are represented by I [X1-3 = N, CH, or C bonding with Ar1 or  
Ar2, where X1 or X3 is C; Z = S, NR1 [R1 = H, (cyclo) alkyl, aryl,  
heterocycle]; Ar1-2 = arylene; Ar3-5 = H, cyano, (cyclo) alkyl, aryl,  
heterocycle; m, n = 0-4, (m + n) ≠ 0]. Electroluminescent devices including  
layers (preferably emitting layers) containing I are also claimed.

IT 208124-12-3

(organic electroluminescent devices including  
unsatd.-group-containing heterocyclic compds. with high  
luminance and long life)

RN 208124-12-3 HCAPLUS

CN 4H-1,2,4-Triazole, 3,5-bis[4'-(2,2-diphenylethenyl)[1,1'-binaphthalen]-  
4-yl]-4-phenyl- (CA INDEX NAME)

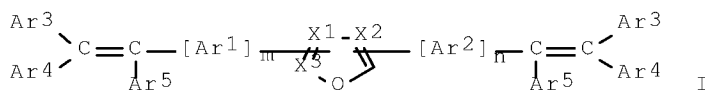


IC ICM C09K011-06  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other  
 Related Properties)  
 Section cross-reference(s): 28  
 IT 25664-52-2 208123-49-3 208123-52-8 208123-55-1 208123-57-3  
 208123-59-5 208123-61-9 208123-64-2 208123-66-4 208123-67-5  
 208123-69-7 208123-71-1 208123-73-3 208123-75-5 208123-77-7  
 208123-78-8 208123-80-2 208123-82-4 208123-85-7 208123-87-9  
 208123-93-7 208123-97-1 208123-99-3 208124-01-0 208124-02-1  
 208124-04-3 208124-06-5 208124-08-7 208124-09-8 208124-10-1  
 208124-11-2 ~~208124-12-3~~ 208124-13-4 208124-14-5  
 208124-15-6 208124-16-7 208124-17-8 208124-18-9 208124-19-0  
 208124-20-3 208124-21-4 208124-22-5 208124-23-6  
 (organic electroluminescent devices including  
 unsatd.-group-containing heterocyclic compds. with high  
 luminance and long life)

L37 ANSWER 61 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1998:361085 HCAPLUS Full-text  
 DOCUMENT NUMBER: 129:47261  
 TITLE: Organic electroluminescent materials and devices  
 using the same with high luminance and long life  
 INVENTOR(S): Okutsu, Satoshi; Onikubo, Shunichi; Tamano,  
 Michiko; Enokida, Toshio  
 PATENT ASSIGNEE(S): Toyo Ink Mfg. Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10152676	A	19980609	JP 1996-313289	19961125
			<--	
JP 3777682	B2	20060524		
PRIORITY APPLN. INFO.:			JP 1996-313289	19961125
			<--	

OTHER SOURCE(S): MARPAT 129:47261  
 ED Entered STN: 13 Jun 1998  
 GI



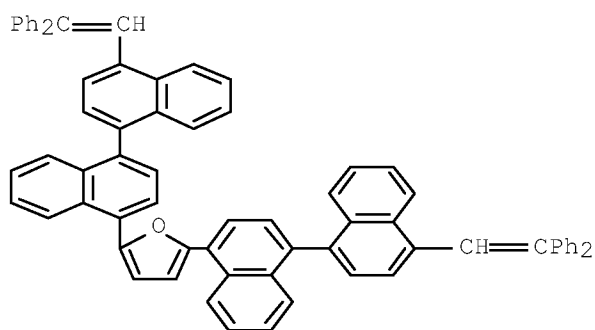
AB Title materials are oxazole derivs. I [X1-3 = N, CH, or C bonding with Ar1 or Ar2, where X1 or X3 is C; Ar1-2 = arylene; Ar3-5 = H, cyano, (cyclo) alkyl, aryl, heterocycle; m, n = 0-4]. Electroluminescent devices including layers (preferably emitting layers) containing I are also claimed.

IT 208125-02-4

(organic electroluminescent devices including unsatd.-group-containing oxazole derivs. with high luminance and long life)

RN 208125-02-4 HCAPLUS

CN Furan, 2,5-bis[4'-(2,2-diphenylethenyl)[1,1'-binaphthalen]-4-yl]- (CA INDEX NAME)



IC ICM C09K011-06

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

IT	16157-33-8	19473-91-7	25664-54-4	103327-40-8	137663-89-9
	151703-21-8	173087-20-2	197154-03-3	208124-76-9	208124-77-0
	208124-78-1	208124-79-2	208124-80-5	208124-82-7	208124-83-8
	208124-84-9	208124-85-0	208124-86-1	208124-87-2	208124-88-3
	208124-89-4	208124-90-7	208124-91-8	208124-92-9	208124-93-0
	208124-94-1	208124-95-2	208124-97-4	208124-99-6	208125-00-2
	208125-01-3	208125-02-4	208125-03-5	208125-04-6	
	208125-05-7	208125-06-8	208125-07-9	208125-08-0	208125-09-1
	208125-10-4	208125-11-5	208125-12-6	208125-13-7	208125-14-8
	208125-15-9	208125-16-0			

(organic electroluminescent devices including unsatd.-group-containing oxazole derivs. with high luminance and long life)

L37 ANSWER 62 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1998:239682 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 128:301910

TITLE: Organic field-type electroluminescent device containing terrylene derivative

INVENTOR(S): Tamura, Shinichiro

PATENT ASSIGNEE(S): Sony Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

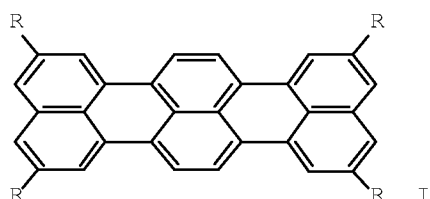
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10102051	A	19980421	JP 1996-259697	19960930
			<--	
PRIORITY APPLN. INFO.:			JP 1996-259697	19960930
			<--	

OTHER SOURCE(S): MARPAT 128:301910  
 ED Entered STN: 27 Apr 1998  
 GI



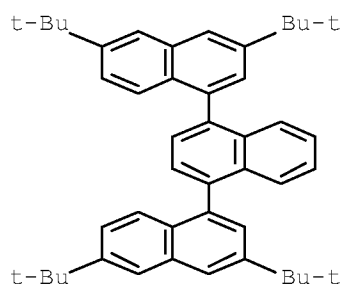
AB The device has a cathode and an anode sandwiching an organic field-type electroluminescent material-containing layer having a terrylene compound. The compound may have a formula I (R = H, alkyl, alkoxy, halo, Ph). An optical material containing the device is also claimed. The device is useful for an image display in a computer, a television set, etc. The device shows stable red-light-emitting and high luminance.

IT 126822-82-0P

(organic field-type electroluminescent device containing terrylene derivative)

RN 126822-82-0 HCAPLUS

CN 1,1':4',1''-Ternaphthalene, 3,3'',6,6''-tetrakis(1,1-dimethylethyl)-(9CI) (CA INDEX NAME)



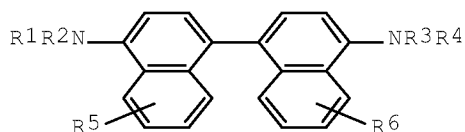
IC ICM C09K011-06

CC 73-12 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

IT 10239-76-6P 10275-58-8P, 2,7-Di-tert-butyl-naphthalene 126822-80-8P  
~~126822-82-0P~~  
 (organic field-type electroluminescent device containing  
 terrylene derivative)

L37 ANSWER 63 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1997:671561 HCAPLUS Full-text  
 DOCUMENT NUMBER: 127:301087  
 TITLE: Organic electroluminescent device with new hole  
 transporting materials  
 INVENTOR(S): Shi, Song Q.; So, Franky; Lee, Hsing-chung  
 PATENT ASSIGNEE(S): Motorola, Inc., USA  
 SOURCE: Eur. Pat. Appl., 15 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 797375	A2	19970924	EP 1997-103641	19970305
			<--	
EP 797375	A3	19980311		
EP 797375	B1	20020605		
R: DE, FR, GB				
JP 09255948	A	19970930	JP 1997-84433	19970318
			<--	
PRIORITY APPLN. INFO.:			US 1996-616833	A 19960319
			<--	
OTHER SOURCE(S):	MARPAT	127:301087		
ED Entered STN:	23 Oct	1997		
GI				



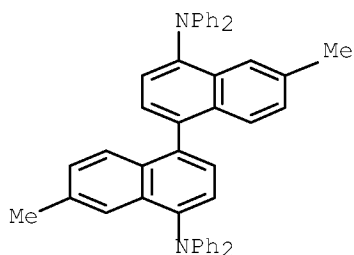
I

AB Organic electroluminescent devices including a cathode, an electron-transporting layer, an emitting layer, a hole-transporting layer, and an anode laminated in sequence are described in which the hole-transporting layer includes a substance represented by the general formula I (R1, R2, R3, R4, R5, R6 = independently selected H, C1-6 alkyl, halo, cyano, nitro, or C6-15 aryl, fused aromatic, alkoxy, alkylamine, aryloxy, or arylamine groups).

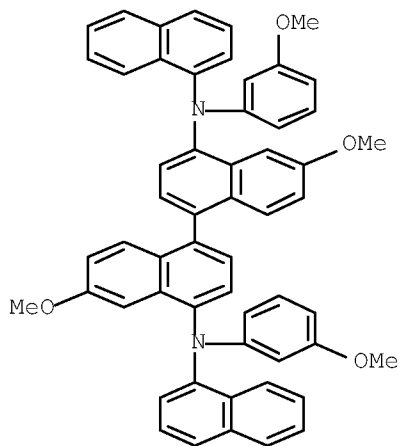
IT 197024-91-2 197024-93-4  
 (organic electroluminescent devices with binaphthylamine  
 derivative hole-transporting materials)

RN 197024-91-2 HCAPLUS

CN [1,1'-Binaphthalene]-4,4'-diamine, 6,6'-dimethyl-N,N,N',N'-tetraphenyl-  
 (9CI) (CA INDEX NAME)



RN 197024-93-4 HCAPLUS  
 CN [1,1'-Binaphthalene]-4,4'-diamine, 6,6'-dimethoxy-N,N'-bis(3-methoxyphenyl)-N,N'-di-1-naphthalenyl- (9CI) (CA INDEX NAME)



IC ICM H05B033-14  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 Section cross-reference(s): 76  
 IT 2085-33-8, Tris(8-hydroxyquinolinol-N1,O8)aluminum 23467-27-8  
 58280-31-2 148896-39-3 174081-49-3 197024-84-3 197024-85-4  
 197024-86-5 197024-87-6 197024-88-7 197024-89-8 197024-90-1  
 197024-91-2 197024-92-3 197024-93-4  
 (organic electroluminescent devices with binaphthylamine derivative hole-transporting materials)

L37 ANSWER 64 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1997:134690 HCAPLUS [Full-text](#)  
 DOCUMENT NUMBER: 126:164087  
 TITLE: Organic electroluminescent elements  
 INVENTOR(S): Azuma, Hisahiro; Matura, Masahide; Sakai, Toshio  
 PATENT ASSIGNEE(S): Idemitsu Kosan Co, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 37 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08333569	A	19961217	JP 1996-82922	19960404
			<--	
JP 3175816	B2	20010611		
PRIORITY APPLN. INFO.:			JP 1995-78744	A 19950404
			<--	

ED Entered STN: 01 Mar 1997

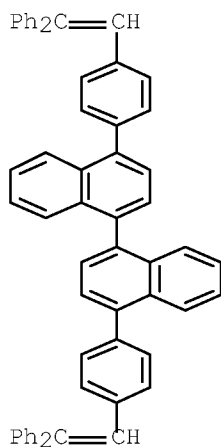
AB A long-life electroluminescent phosphor consists of distylyl arylene derivs., where the claims include the Markush formulas and the manufacturing process of representative phosphors.

IT 186412-20-4

(preparation and use of distylyl arylene derivative  
 electroluminescent phosphors)

RN 186412-20-4 HCAPLUS

CN 1,1'-Binaphthalene, 4,4'-bis[4-(2,2-diphenylethenyl)phenyl]- (CA  
 INDEX NAME)



IC ICM C09K011-06  
 ICS H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other  
 Related Properties)

IT 186259-43-8 186259-44-9 186259-51-8 186412-13-5 186412-14-6  
 186412-15-7 186412-16-8 186412-17-9 186412-18-0 186412-19-1  
 186412-20-4 186412-21-5 186412-22-6 186556-98-9

(preparation and use of distylyl arylene derivative  
 electroluminescent phosphors)

L37 ANSWER 65 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1993:569573 HCAPLUS Full-text

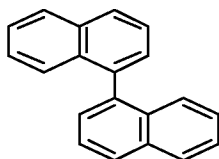
DOCUMENT NUMBER: 119:169573

ORIGINAL REFERENCE NO.: 119:30169a,30172a

TITLE: Effect of solvent polarity on the properties of  
 the electronic excited state of 1,1'-binaphthyl:  
 UV-visible spectroscopic study

AUTHOR(S): Benali, B.; Fadouach, M.; Kabouchi, B.; Kadiri,

A.; Nouchi, G.  
 CORPORATE SOURCE: Lab. Spectron. Phys. Appl., Fac. Sci., Rabat,  
 Morocco  
 SOURCE: Spectrochimica Acta, Part A: Molecular and  
 Biomolecular Spectroscopy (1993),  
 49A(8), 1163-9  
 CODEN: SAMCAS; ISSN: 0584-8539  
 DOCUMENT TYPE: Journal  
 LANGUAGE: French  
 ED Entered STN: 16 Oct 1993  
 AB A UV-vis emission spectroscopy study of the flexible mol., 1,1'-binaphthyl as  
 a function of solvent polarity allows one to obtain information on the excited  
 singlet states. The authors show the existence of a charge transfer (CT)  
 character state. This CT is evidenced by the solvent polarity effect, the  
 measurement of polarization ratio and finally by comparison of the ratio  
 intensities of phosphorescence and fluorescence.  
 IT 604-53-5, 1,1'-Binaphthyl  
 (luminescence of, solvent polarity effects on, excited  
 singlet state in relation to)  
 RN 604-53-5 HCAPLUS  
 CN 1,1'-Binaphthalene (CA INDEX NAME)



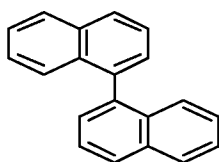
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other  
 Related Properties)  
 Section cross-reference(s): 22  
 IT Solvent effect  
 (on luminescence of binaphthal)  
 IT 604-53-5, 1,1'-Binaphthyl  
 (luminescence of, solvent polarity effects on, excited  
 singlet state in relation to)  
 L37 ANSWER 66 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1991:543103 HCAPLUS Full-text  
 DOCUMENT NUMBER: 115:143103  
 ORIGINAL REFERENCE NO.: 115:24397a,24400a  
 TITLE: Pyrene, pyrene derivatives, and 1,1'-binaphthyl as  
 luminescent probes for photophysical  
 studies of alumina surfaces  
 AUTHOR(S): Pankasem, Surapol; Thomas, J. Kerry  
 CORPORATE SOURCE: Dep. Chem. Biochem., Univ. Notre Dame, Notre Dame,  
 IN, 46556, USA  
 SOURCE: Journal of Physical Chemistry (1991),  
 95(19), 7385-93  
 CODEN: JPCHAX; ISSN: 0022-3654  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 ED Entered STN: 05 Oct 1991

AB The fluorescence probing of  $\gamma$ -alumina with pyrene and its derivs., 1-pyrenecarboxaldehyde and 1-aminopyrene was used to monitor active sites on alumina. Both steady-state and time-resolved studies indicate that there are a variety of adsorption sites on alumina for polyarom. compds. Physisorption sites, where adsorbed mols. interact with the surface through OH groups, dominate on alumina surfaces of low pretreatment temperature. The cation sites or the Lewis acid sites, which are responsible for cation-radical formation, are present on the alumina surfaces of high pretreatment temps. The charge-transfer complex sites, which are a combination between the physisorption sites and the Lewis acid sites, are present at intermediate pretreatment temps. The Gaussian distribution kinetic model is used to describe the decay of the singlet excited state of pyrene,  $1P^*$ . The average decay rate consts. of  $1P^*$  range from  $6.85 \times 10^6$  to  $1.21 \times 10^7$  s<sup>-1</sup> for pretreatment temps. from 140 to 750°. The reaction of  $1P^*$  with coadsorbed quenchers such as PhNO<sub>2</sub> and MeNO<sub>2</sub> changes from dynamic to static in nature when the pretreatment temperature is increased. At high pretreatment temps., a larger number of Lewis acid sites induces formation of cation radicals of the probes which are characterized by their characteristic cation absorption spectra,  $\lambda_{\max} = 450$  nm. The cation radicals of pyrene and aminopyrene do not luminesce on excitation, but that of pyrenecarboxaldehyde exhibits an emission at 520 nm. These studies are the first report of a quant. kinetic description (Gaussian in k) of photochem. events at active sites of alumina.

IT 604-53-5, 1,1'-Binaphthyl  
(fluorescence of, adsorbed on alumina)

RN 604-53-5 HCAPLUS

CN 1,1'-Binaphthalene (CA INDEX NAME)



CC 66-3 (Surface Chemistry and Colloids)  
Section cross-reference(s): 67, 73, 74

IT 604-53-5, 1,1'-Binaphthyl 135710-69-9  
(fluorescence of, adsorbed on alumina)

L37 ANSWER 67 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1977:508513 HCAPLUS Full-text

DOCUMENT NUMBER: 87:108513

ORIGINAL REFERENCE NO.: 87:17147a,17150a

TITLE: Electrogenated chemiluminescence of naphthalene derivatives. Steric effects on exciplex emissions

AUTHOR(S): Park, Su-Moon; Paffett, Mark T.; Daub, Guido H.

CORPORATE SOURCE: Dep. Chem., Univ. New Mexico, Albuquerque, NM, USA

SOURCE: Journal of the American Chemical Society (1977), 99(16), 5393-9

CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal

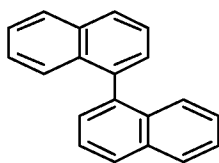
LANGUAGE: English

ED Entered STN: 12 May 1984

AB Electrogenated chemiluminescence (ecl), electrode potentials, and fluorescence of 14 substituted naphthalenes are reported. The fluorescence

maximums of these compds. were rather poorly correlated with electrode potentials. Six of 14 naphthalenes gave ecl corresponding to their fluorescence emissions. An ecl spectrum having both monomer and excimer bands was observed from 4,5,6,7- tetrahydronaphtho[2,1-g:1',2'-i][1.2]dioxecine, which is a dimeric form of naphthalene. Exciplex emissions were observed from mixed donor-acceptor systems containing naphthalene derivs. and triphenyl amines and the energy of the exciplex was linearly correlated with electrode potentials with smaller slopes than previously reported. This phenomenon was attributed to the entropy effect on the formation of exciplexes between bulky donor and acceptor mols.

IT 604-53-5  
 (luminescence of, electrogenerated chemi-)  
 RN 604-53-5 HCAPLUS  
 CN 1,1'-Binaphthalene (CA INDEX NAME)

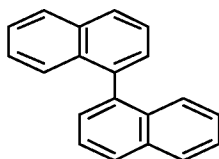


CC 72-12 (Electrochemistry)  
 Section cross-reference(s): 26, 73  
 ST naphthalene deriv electrochemi luminescence; fluorescence  
 potential naphthalene deriv  
 IT luminescence  
 (electrochemi-, of naphthalene derivs., steric effects in relation to)  
 IT 90-12-0 91-20-3, properties 91-20-3D, derivs. 91-57-6 188-35-2  
 604-53-5 612-78-2 796-30-5 17064-15-2 20904-92-1  
 22021-59-6 38896-36-5 38896-37-6 64065-97-0 64186-65-8  
 (luminescence of, electrogenerated chemi-)

L37 ANSWER 68 OF 68 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1970:420141 HCAPLUS Full-text  
 DOCUMENT NUMBER: 73:20141  
 ORIGINAL REFERENCE NO.: 73:3347a,3350a  
 TITLE: Effect of substitution on the fluorescence quantum yields and lifetimes of the excited singlet states of monosubstituted naphthalenes in solution  
 AUTHOR(S): Lentz, P.; Blume, Hartwig; Schulte-Frohlinde, Dietrich  
 CORPORATE SOURCE: Inst. Strahlenchem., Kernforschungszentrums  
 Karlsruhe, Karlsruhe, Fed. Rep. Ger.  
 SOURCE: Berichte der Bunsen-Gesellschaft (1970),  
 74(5), 484-8  
 CODEN: BBPCAX; ISSN: 0940-483X  
 DOCUMENT TYPE: Journal  
 LANGUAGE: German  
 ED Entered STN: 12 May 1984  
 AB Fluorescence quantum yields and fluorescence spectra of naphthalene, 18 monosubstituted naphthalenes, and a benzanthrene have been determined in aereated and deaereated solns. of cyclohexane and MeOH at 25°. Lifetimes of the 1st excited singlet states and rate consts. of the fluorescence and of the

nonradiative deactivation have been calculated from O quenching. With few exceptions, the quantum yields of fluorescence are only slightly dependent on the polarity and position of substituents. Contrary to that, the lifetimes vary by more than one order of magnitude. From the results, it is revealed that both the rate consts. of fluorescence and of nonradiative deactivation are strongly influenced by polar substitution in the same sense. This effect is not seen in the quantum yields.

IT 604-53-5  
 (luminescence of, in solution, lifetime and quantum yield  
 of)  
 RN 604-53-5 HCAPLUS  
 CN 1,1'-Binaphthalene (CA INDEX NAME)



CC 73 (Spectra by Absorption, Emission, Reflection, or Magnetic  
 Resonance, and Other Optical Properties)  
 IT 56-55-3 86-53-3 86-56-6 93-04-9 604-53-5 605-02-7  
 612-78-2 612-94-2 613-46-7 2216-69-5 2436-85-3 3007-91-8  
 3007-97-4  
 (luminescence of, in solution, lifetime and quantum yield  
 of)

=> d his nofile

(FILE 'HOME' ENTERED AT 13:47:07 ON 13 MAY 2008)

FILE 'HCAPLUS' ENTERED AT 13:47:21 ON 13 MAY 2008

L1 1 SEA ABB=ON PLU=ON US20050175857/PN  
SEL RN

FILE 'REGISTRY' ENTERED AT 13:47:39 ON 13 MAY 2008

L2 9 SEA ABB=ON PLU=ON (123324-71-0/BI OR 32316-92-0/BI OR  
49610-35-7/BI OR 604-53-5/BI OR 676553-38-1/BI OR 76-86-8/B  
I OR 7726-95-6/BI OR 861909-11-7/BI OR 861909-12-8/BI)  
L3 STR  
L4 50 SEA SSS SAM L3  
L5 16397 SEA SSS FUL L3  
L6 5 SEA ABB=ON PLU=ON L5 AND L2  
SAV L5 GAR577/A

FILE 'HCAPLUS' ENTERED AT 14:09:29 ON 13 MAY 2008

L7 9613 SEA ABB=ON PLU=ON L5  
L8 553 SEA ABB=ON PLU=ON L6  
L9 1 SEA ABB=ON PLU=ON L7 AND L1  
L10 QUE ABB=ON PLU=ON LUM!N? OR ELECTROLUM!N? OR ORGANOLUM!N?  
OR (ELECTRO OR ORGANO OR ORG#) (2A)LUM!N? OR LIGHT? (2A) (EMI  
T? OR EMISSION?) OR EL OR E(W)L OR L(W)E(W)D OR OLED OR  
LED  
L11 389 SEA ABB=ON PLU=ON L10 AND L7  
L12 295 SEA ABB=ON PLU=ON L11 AND (1840-2004)/PRY,AY,PY  
L13 1 SEA ABB=ON PLU=ON L12 AND L1

FILE 'REGISTRY' ENTERED AT 14:12:45 ON 13 MAY 2008

L14 STR L3  
L15 50 SEA SUB=L5 SSS SAM L14  
L16 STR L14  
L17 STR L16  
L18 11 SEA SUB=L5 SSS SAM L17  
L19 STR L17  
L20 50 SEA SUB=L5 SSS SAM L19  
L21 STR L19  
L22 50 SEA SUB=L5 SSS SAM L21  
L23 5743 SEA SUB=L5 SSS FUL L21  
L24 3 SEA ABB=ON PLU=ON L23 AND L2  
SAV L23 GAR577A/A

FILE 'HCAPLUS' ENTERED AT 14:41:00 ON 13 MAY 2008

L25 2687 SEA ABB=ON PLU=ON L23  
L26 122 SEA ABB=ON PLU=ON L25 AND L12

FILE 'REGISTRY' ENTERED AT 14:41:44 ON 13 MAY 2008

L27 5337 SEA ABB=ON PLU=ON L23 NOT PMS/CI

FILE 'HCAPLUS' ENTERED AT 14:42:03 ON 13 MAY 2008

L28 2613 SEA ABB=ON PLU=ON L27  
L29 114 SEA ABB=ON PLU=ON L28 AND L12  
L30 76 SEA ABB=ON PLU=ON L28(L)L10  
L31 1 SEA ABB=ON PLU=ON L30 AND L1  
L32 17 SEA ABB=ON PLU=ON L8(L)L10  
L33 28 SEA ABB=ON PLU=ON L8 AND L10

# 10/774,577

L34	94	SEA	ABB=ON	PLU=ON	(L30 OR L31 OR L32 OR L33)
L35	81	SEA	ABB=ON	PLU=ON	L34 AND (1840-2004)/PRY,AY,PY
L36	1	SEA	ABB=ON	PLU=ON	L35 AND L1
L37	68	SEA	ABB=ON	PLU=ON	L35 AND OPTIC?/SC,SX
L38	1	SEA	ABB=ON	PLU=ON	L37 AND